Tender Document
for Supply, Installation, commissioning of Audio -Video equipments, ICT equipments, related hardware's/ software's, VC Solution and accessories for setting up of teacher end studio and remote class rooms with warranty support.

Tender No: TCIL/15/1597/I/14-MM/16E

Issued on: July 15, 2014

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SECTION-1

Tender No.: **TCIL/15/1597/I/14-MM/16E** **July 15, 2014**

NOTICE INVITING TENDER

e-tenders are invited from eligible and experienced Bidders for Supply, Installation, commissioning of Audio /Video equipments ICT equipments, related hardware's/ software's and accessories for setting up of teacher end studio and remote class rooms with warranty support

Submission of Online Bids is mandatory for this Tender. Detailed instructions are given in Section-2 of this Tender Document.

Important Dates

Date of Posting of NIT on TCIL's e-Tendering Portal	:15-07-2014, 13:00 hrs
Start Date & Time of Procurement of tender documents	:15-07-2014, 18: 00 hrs.
Last date & time of procurement of tender documents	:05-08-2014, 13: 00 hrs.
Last date & time for seeking clarification, if any	:22-07-2014, 13: 00 hrs.
Pre-bid Meeting	:23-07-2014 11:00 hrs
Last date & time for Online submission of Bids	:05-08-2014, 15: 00 hrs.
Online Opening of Technical Part (Part-I)	:05-08-2014, 15: 30 hrs.
Online Opening of Financial Part (Part-II)	: To be notified later

Bidders are advised to visit the TCIL's e-tendering (ETS) portal (https://www.tcil-india-electronictender.com) regularly for updates/amendments, if any.

Tender documents are enclosed.

Complete tender documents are also available on TCIL's website, address given below:

http:// www.tcil-india.com

The documents downloaded by the parties from the website shall be valid for participation in the tender process.

Bidders are advised to check the TCIL website regularly for amendments, if any. Please note that request for extension of due date will not be entertained.

ELIGIBILITY CRITERIA

The Bidder shall fulfill the following Eligibility Criteria:

1. The Bidder should be a IT/Broadcast Company in existence for the last 5 years and registered under Companies Act 1956 or relevant statute, Copy of Certificate of Incorporation/Registration or any other relevant document, as applicable may be submitted along with a copy of address proof.

2. The bidder should have a valid PAN and Service Tax Registration. Copy of PAN card and Service Tax Registration certificate are required to be submitted.

3. The bidder should not be insolvent, in receivership, bankrupt or being wound up, not have had their business activities suspended and not be the subject of legal proceedings for any of the foregoing.

4. The Bidder/ Consortium bidders should have experience of having successfully completed at least one similar work during last two years ending 30-06-2014. The value of such work should not be less than Rs. 6.5 crore.

or

two similar works in last two years ending 30-06-2014. The value of each completed work should not be less than Rs 3.25 crore .

(Similar works means Supply, Installation, commissioning of Audio -Video equipments ICT equipments, related hardware's/ software's, VC solution and accessories for setting up of studios and remote class rooms.)

Bidder should provide necessary documents such as copy of Work order/ P.O. along with the completion certificate issued by the client in support of their claim of experiences.

5. Should be an OEM or its authorized distributer of at least the critical equipments like audio- video equipments, storage system, switchers/mixers, recording system editing system(Audio/Video),broadcast equipments, projectors ,VC. In case of distributer, the bidder should submit letter of authorization from the OEM/Developer for all equipments.
(Please submit manufacturer's authorization letter as per Annexure C, in original (ink signed specific for this tender), on the OEM's letter head duly signed by authorized signatory).

6. Bidder is required to quote for the complete BOQ. Partial quote are liable to be rejected.

7. A letter from OEM/Principal Manufacturer also needs to be furnished along with the bid ensuring the availability of service support for at least 5 years from the date of delivery of systems.

8. The bidders should have their own branch office/service centre or arrangement to provide service through local dealer/service provider in the locations mentioned in the annexure A.

9. The bidder shall be ISO 9001 or SEI CMM level 3 certified companies. Copy of such certification may be furnished.

10. Average annual financial turnover during the last 3 years (2011-12, 2012-13, 2013-14) should be at least Rs. 4.25 Crore . Bidder should submit the Annual Report containing duly audited Balance Sheet and Profit & Loss Account for the last three years. Company's net worth should be positive and should not be in loss for last three consecutive years.

11. The Bidder should not have been blacklisted by Central /State Government Departments/ Public Sector Undertakings or other institutions. "No-conviction Certificate" duly signed as per Format at Annexure C should be submitted.

12. Tender document fee is Rs. 5000/- (Rupees Five thousand only). In case bidder has downloaded the tender document, the same has to be submitted in form of Demand Draft in favor of "Telecommunications Consultants India Ltd." Payable at New Delhi.

13. Earnest Money amounting to **Rs. 5,00,000/- (Rs. Five Lakh only*)*** by Demand Draft in favour of "Telecommunications Consultants India Ltd."/ Bank Guarantee in the prescribed format from a scheduled bank from its branch at Delhi/New Delhi shall be submitted along with the tender for each Group.

Tenders received without EMD/inadequate EMD shall be summarily rejected.

Two stage bid system shall be adopted, i.e., Techno-Commercial Offer and Price Offer.

EMD shall be part of Techno-Commercial Offer.

The bidder must officially procure/download the tender documents from the ETS portal of TCIL before the last date and time of sale of tender document in order to bid for this tender.

Please note that this is mandatory even in case the tender document is not priced and that the bidder will in no case be able to participate in the tender without having procured/downloaded the official copy of the tender before the due date and time for the same.

INTEGRITY PACT

"This tender is covered under Integrity Pact Programme of TCIL and Bidders are required to sign the Integrity Pact Document and submit the same to TCIL before or along with the bids". For further details, the Clause "Integrity Pact Programme" mentioned in the Section-2 of the Tender Document may be seen.

NOTE :--Tender received without signed & stamped copy of the Integrity Pact document as instructed in Clause No.2.21 shall liable to be rejected ,and the bidder himself shall be responsible for it.

TCIL reserves the right to accept or reject any or all the tenders without assigning any reason.

Contact Information:

TCIL Contact-1	**-**	**Mr S. R. Gupta, GM(MM-Civil)** **Telephone : 011 2620 2410, 09868393838** **E-mail ID: sr.gupta@tcil-india.com**
TCIL Contact-2 **(For Technical Queries)**	**-**	**Mr. S. Bharti. Kumar, GM(NW)** **Telephone: 011-2620 2608** **E-mail ID: sbkumar@*tcil-india.com***
E-Tendering Helpdesk	**-**	**Telephone: +91-11-26241071, 26241072** **Emergency Mob.: +91-9868393775, 9868393717** **E-mail ID: *ets_support@tcil-india.com***

The price Offers of only those parties who qualify in the first stage shall be opened at time and date to be notified separately.

Group General Manager (MM)

-END OF SECTION 1-

SECTION 2

Tender No.: TCIL/15/1597/I/14-MM/16E July 15, 2014

INSTRUCTIONS TO BIDDERS

2.1.1 INTRODUCTION (DEFINITIONS)

2.1.2 "Purchaser" means Telecommunications Consultants India Ltd. (TCIL), its Head Quarter at New Delhi (on behalf of NCERT, New Delhi) or any other project/branch offices within or outside India.

2.1.3 "Bidder" means the individual or firm or corporate body that participates in the tender and submits its bid.

2.1.4 ''Goods/Services" means all the hardware equipments, instruments, tools, machinery etc., and/or other materials like components/parts/spares including consumables or services which the supplier is required to supply/provide to the Purchaser under the Purchase/Work Order.

2.1.5 "Letter of Intent (LOI)" means the communication of the intention of the Purchaser to the Bidder to place the Work Order/ Purchaser Order for the former's offered goods/services

2.1.6 "Purchase/Work Order (PO)" means the order placed by the Purchaser on the Supplier/service provider duly signed by the Purchaser's authorized representative to purchase certain goods &/ or services from the vendor/contractor.

2.1.7 "Contract Price" means considerations payable to the supplier/contractor as stipulated in the Purchase or Work Order for performance of specified contractual obligations.

2.2 BIDDER TO BEAR COST OF PURCHASE OF TENDER

The Bidder shall bear all costs associated with the preparation and submission of the bid. The Purchaser in any case will not be responsible or liable for these costs regardless or the conduct of the bidding process.

2.3 BID DOCUMENTS

2.3.1 Bid Documents includes:-

Section 1 Notice Inviting Tender

Section 2 Instructions to Bidders

Section 3 General (Commercial) Conditions of the Contract

Section 4 Special Conditions of Contract

Section 5 Bill of Quantity

Section 6 Information to Bidders & Scope of Work

Section 7 Price Bid Schedule

Section 8 Format of Bid Bond/EMD

Section 9 Format of Performance Bank Guarantee

Section 10 Bid Submission Form

Section 11 Integrity Pact

Annexure A List of sites (NCERT)

Annexure B No conviction certificate format

Annexure C OEM authorization

2.3.2 Any clarification or communications obtained from the Purchaser

2.4 AMENDMENT TO BID DOCUMENTS

2.4.1 At any time, prior to the date of submission of bids, the Purchaser may for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the bid document by amendments.

2.4.2 The amendments/corrigendum, if any, issued to this tender will be notified on TCIL website and these will be binding on them. Survey Agencies are advised to check the TCIL website regularly for amendments, if any.

2.5 EXTENSION OF TIME

In order to give prospective bidders required time in which to take the amendments into action in preparing their bid, the Purchaser may at its discretion extend the deadline for submission of bid suitably.

2.6 BID PRICE

Unit prices/rates shall be quoted as given in Special Conditions of the tender in Section – 4.

2.7 BIDDER's ELIGIBILITY AND QUALIFICATIONS

Bidder shall furnish as a part of bid documents establishing the bidder's eligibility to supply/services. The bidder shall also submit documentary evidence in the form of literature, drawing, data on the goods / services offered.

2.8 BID SECURITY

2.8.1 The Bidder shall submit, as part of bid security as mentioned in the NIT. The bid security shall be in one of the following forms:-

(a) A Bank Guarantee as per enclosed format issued by a schedule bank in favor "Telecommunications Consultants India Limited'.

(b) Demand Draft or Pay Order from a Scheduled Bank in favor of "M/s Telecommunications Consultants of India Ltd.", payable at New Delhi.

2.8.2 The bid not secured in accordance with the above shall be rejected by the Purchaser as non-responsive.

2.8.3 The bid security of the unsuccessful bidder will be discharged/ returned as promptly as possible as but not later than 30 days after expiry of the bid validity period prescribed by the Purchaser.

2.8.4 The successful bidder's bid security will be discharged upon the bidder's submission of the Performance Guarantee.

2.8.5 The bid security may be forfeited under the following circumstances:-

a) If a bidder withdraws his bid during the period of bid validity specified by the bidder on the bid form.

b) In case of a successful bidder, if he fails to submit the Performance Guarantee within the time prescribed or

c) If he fails to supply the material/ services in terms of the project.

2.8.6 No interest is payable on bid security.

2.8.7 In case of inadequacy or non-submission of prescribed bid security, the tender shall be deemed to be disqualified and shall be summarily rejected in the technical evaluation.

2.8.8 EMD submitted against any other tender in whatever the form either in the form of DD or Bank Guarantee will not be adjusted against this tender.

2.9 VALIDITY PERIOD OF BID

Bid shall remain valid for 180 days after the date of bid opening. The bid valid for a shorter period shall be considered as non-responsive and liable to be rejected by the Purchaser as non responsive. In exceptional circumstances, the purchaser may request the consent of the

bidder for an extension to the period of bid validity. The bid security provided under clause 2.8.1 (a) shall also be suitably extended accordingly. A bidder accepting the request and granting extension will not be permitted to modify his bid.

2.10 **CLARIFICATION OF BIDS**

2.10.1 To assist evaluation and comparison of the bids, the Purchaser may, at its discretion ask, the bidder for clarification of the bid. The clarification and response from bidder shall be in writing.

2.10.2 The Purchaser does not bind himself to accept the lowest or any tender and reserves to himself the right to accept the whole or any part of the tender and altering the quantities offered and tenderer shall supply the same at the rate quoted.

2.11 EVALUATION OF TENDERS

2.11.1 The Purchaser shall evaluate the bids in respect to the substantive responsiveness of the bid or otherwise. The Purchaser shall carry out detailed evaluation of the substantially responsive bids. The Purchaser shall check the bid to determine whether they are complete, whether any computational errors have been made or required sureties have been furnished.

2.11.2 Arithmetical error shall be rectified on the following basis :-

a) If there is a discrepancy between the unit price and total price that is obtained multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected by the Purchaser.

b) In case of discrepancy between words and figures, the amount in words shall prevail.

2.11.3 A bid determined as substantially non-responsive shall be rejected by the Purchaser.

2.11.4 The Purchaser may waive any minor infirmity or non-conformity or irregularity in the bid which does not constitute a material/service deviation.

2.11.5 The Purchaser shall evaluate in detail and compare the bids which are substantially responsive.

2.11.6 The evaluation of the ranking shall be carried out on the landed price of goods offered inclusive of all taxes.

2.11.7 The distribution of the tendered quantity amongst the technically and commercially complied bidders shall be based on the merits of each case.

2.11.8 TCIL shall have the sole discretion in deciding the number of parties on whom the orders shall be finally placed.

2.12 PURCHASER'S RIGHT TO VARY QUANTITIES

2.12.1 The Purchaser reserves the right at the time of award of the contract to increase/decrease the quantity of the services specified in the schedule of requirements without any change in unit price of the ordered quantity.

2.13 PURCHASER'S RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BIDS

The Purchaser does not bind himself to accept lowest or any other tender/bid and has the right to cancel the bidding process and reject all bids at any time prior to award of the contract without assigning any reasons whatsoever and without thereby incurring any liability to the affected bidder on the grounds for the Purchaser's action.

2.14 NOTIFICATION OF SUCCESSFUL BIDDER

2.14.1 Prior to the expiration of the bid period, the Purchaser will notify the successful bidder in writing by registered letter or fax, to be confirmed in writing by registered letter that its bid has been accepted.

2.14.2 Upon successful bidder furnishing of Performance Guarantee, the Purchaser will notify each successful bidder and will discharge its bid bond.

2.15 ISSUE OF LETTER OF INTENT

2.15.1 The issue of Letter of Intent shall constitute the intention of the Purchaser to place the Purchase/work Order with the successful bidder.

2.15.2 The bidder shall within 10 days of issue of Letter of Intent/ purchase order give its acceptance along with Performance Guarantee in conformity with the bid documents.

2.16 CANCELLATION OF LETTER OF INTENT/PURCHASE ORDER

Failure of the successful bidder to comply with the requirement of submission of Performance Guarantee in time shall constitute sufficient ground for the cancellation of the acceptance of bid and forfeiture of the bid bond, in which case Purchaser may make the offer to any other bidder at the discretion of the Purchaser or call for new bids.

2.17 POST BID CLARIFICATIONS

No post bid clarification at the initiative of the Bidder shall be entertained and any effort by the bidders to influence the Purchaser in the Purchaser's bid evaluation, bid comparison or award of the contract shall result in rejection of the bid.

2.18 DELIVERY

Delivery of the goods/services shall be made by the supplier in accordance with the terms specified by the Purchaser in the Special condition of the contract and goods /services shall remain at the risk of the supplier until delivery has been completed in full. The Schedule of delivery shall be the essence of the contract.

2.19 OPENING OF PRICE OFFER

Price offer of only those bidders will be opened whose Techno-Commercial offers are found to be qualified and acceptable to TCIL. Bidder's representative may attend the Price Offer opening. The qualified bidders shall be notified with the date, time & venue of the opening of the Price Offer.

2.20 INSTRUCTIONS REGARDING ONLINE BID SUBMISSION

2.20.1 Bidding Methodology:

Single-stage Two-Bid System (Technical Part and Financial Part to be submitted at the same time) shall be followed.

2.20.2 Broad outline of activities from Bidders perspective:

i) Procure Digital Signature Certificates (DSC) for users of the organization (if not procured earlier)

ii) Register your organization on Electronic Tendering System® (ETS) Portal of TCIL (https://www.tcil-india-electronictender.com) if not already registered

iii) Create Users and assign roles on ETS

iv) Assign Tender to a department of your organization on ETS

v) Download Official Copy of Tender Documents from ETS

vi) Clarification to Tender Documents on ETS

– Post query to TCIL (Optional)

– View response to queries posted by TCIL

vii) Online Bid-Submission on ETS

viii) Attend Online Public Tender Opening Event (TOE) for Techno-Commercial Bid on ETS

– Opening of Technical-Part

ix) Post-TOE Clarification on ETS (Optional)

– Respond to TCIL's Post-TOE technical queries

x) Attend Public Online Tender Opening Event (TOE) for Financial Bid on ETS – Opening of Financial-Part

(Only for Technically Responsive Bidders)

For participating in this tender online, the following instructions are to be read carefully. These instructions are supplemented with more detailed guidelines on the relevant screens of the ETS.

2.20.3 Digital Certificates

For integrity of data and its authenticity/ non-repudiation of electronic records, and to become compliant with IT Act 2000, it is necessary for each user to have a Digital Certificate (DC). also referred to as Digital Signature Certificate (DSC), of Class 2 or above, issued by a Certifying Authority (CA) licensed by Controller of Certifying Authorities (CCA) [refer http://www.cca.gov.in].

2.20.4 Registration

To use the Electronic Tender® portal (https://www.tcil-india-electronictender.com) the Bidder need to register on the portal. Registration of bidders organization is to be done by one of its senior persons who will be the main person coordinating for the e-tendering activities. In ETS terminology, this person will be referred to as the Super User (SU) of that organization. For further details, please visit the website/portal, and click on the 'Supplier Organization' link under 'Registration' (on the Home Page), and follow further instructions as given on the site. Pay Annual Registration Fee as applicable.

Note: After successful submission of Registration details online and Annual Registration Fee (Rs. 6,000/- + Service Tax @ 12.36%) physically to TCIL, please contact e-Tendering Helpdesk (as given in Section 1), to get your registration accepted/activated. The Annual Registration Fee can be submitted by the following modes:

i) DD in favour of "Telecommunications Consultants India Limited" is to be submitted to Sr. Manager (F&A-IT), TCIL, TCIL Bhawan, 4th Floor, G.K.-I, New Delhi-110048.

Or

ii) Fee Amount can be deposited in TCIL's Bank Account No. 000705005880 in ICICI Bank, Canaught Place Branch, IFSC Code: ICIC0000007 by electronic transfer and Transaction Details to be emailed to ets_support@tcil-india.com

2.20.5 <u>On-Line Submission</u>

The On Line Submission will have the following activities:

i) Submission of digitally signed copy of Tender Documents/ Addendum

ii) Submission of Acceptance/Rejection of General Terms & Conditions

iii) Submission of Acceptance/Rejection of Special Terms & Conditions

iv) Submission of particulars of EMD

v) Submission of **<u>Technical Part</u>** as under:

- Submission of Electronic Form (Mandatory)
- Submission of Main Bid (Mandatory)
- Submission of Bid Annexure (Optional)

Technical Part must contain the following which is required to be submitted in the Main Bid/Bid Annexure:

a) Duly filled in Bid Submission Form as per Section – 10

b) Statement showing Clause by Clause Compliance to all Terms & Conditions of all the Sections of the Tender.

c) Scanned copy of Documentary Evidence of Eligibility Criteria

d) Technical Offer specifying Make & Model of the Offered Product

e) Product Data Sheet

f) Product Brochure

g) Un-priced Bid Schedule as per Section-7

h) Any other supporting documents the bidder wishes to submit as a part of Technical Offer

vi) Submission of **<u>Financial Part</u>** as under:

- Submission of Electronic Form (Mandatory)
- Submission of Main Bid (Mandatory)
- Submission of Bid Annexure (Optional)

Financial Part must contain the Price Bid Schedule as per Section-7.

The entire bid-submission as above would be online on ETS.

2.20.6 <u>Offline Submissions</u>:

The bidder is requested to submit the following documents offline (i.e. personally) to GGM (MM), TCIL Bhawan, 4th Floor, Greater Kailash-I, New Delhi-110 048 before the due date & time of submission in a Sealed Envelope, the envelope shall bear, the Tender No. & Description and the words 'DO NOT OPEN BEFORE' (due date & time):

i). Tender Fee of Rs. 5000/- by Demand Draft in favor of "Telecommunications Consultants India Ltd."

ii). EMD of Rs. 5, 00,000/- by Demand Draft or Pay Order from a Scheduled Bank in favor of "M/s Telecommunications Consultants of India Ltd.", payable at New Delhi. Or Bank guarantee in the prescribed format issued by a schedule bank in favor "Telecommunications Consultants India Limited'

iii). Copy of integrity pact duly filled and all pages signed & stamped preferable in blue ink.

iv). Power of attorney duly notarized in the name of authorized signatory on stamp paper of Rs. 100/-

Note:--The bidders are strictly advised to read the document and fill up/comply the above documents correctly.

2.20.7 <u>Special Note on Security of Bids</u>

Security related functionality has been rigorously implemented in ETS in a multi-dimensional manner. Starting with 'Acceptance of Registration by the Service Provider', provision for security has been made at various stages in Electronic Tender's software. Specifically for Bid Submission, some security related aspects are outlined below:

As part of the Electronic Encrypter™ functionality, the contents of both the 'Electronic Forms' and the 'Main-Bid' are securely encrypted using a Pass-Phrase created by the Bidder himself. Unlike a 'password', a Pass-Phrase can be a multi-word sentence with spaces between words (eg I love this World). A Pass-Phrase is easier to remember, and more difficult to break. It is recommended that a separate Pass-Phrase be created for each Bid-Part.

Typically, 'Pass-Phrase' of the Bid-Part to be opened during a particular Online Public Tender Opening Event (TOE) is furnished online by each bidder during the TOE itself, when demanded by the concerned Tender Opening Officer. A bid cannot be opened without a correct Pass-Phrase.

It may also be noted that if a bidder fails to furnish the correct Pass-Phrase during the TOE of Technical Part, the bid shall be rejected. If the bidder fails to furnish the correct Pass-Phrase during the TOE of Financial Part, not only shall the bid be rejected but also the EMD shall be forfeited.

There is an additional protection with SSL Encryption during transit from the client-end computer of a Supplier organization to the e-tendering server/ portal.

2.20.8 Online Public Tender Opening Event (TOE)

ETS offers a unique facility for 'Online Public Tender Opening Event (TOE)'. Tender Opening Officers as well as authorized representatives of bidders can attend the Online Public Tender Opening Event (TOE) from the comfort of their offices. For this purpose, representatives of bidders (i.e. Supplier organization) duly authorized are requested to carry a Laptop and Wireless Connectivity to Internet.

Every legal requirement for a transparent and secure 'Online Public Tender Opening Event (TOE)' has been implemented on ETS.

As soon as a Bid is decrypted with the corresponding 'Pass-Phrase' as submitted online by the bidder himself (during the TOE itself), salient points of the Bids are simultaneously made available for downloading by all participating bidders. The tedium of taking notes during a manual 'Tender Opening Event' is therefore replaced with this superior and convenient form of 'Online Public Tender Opening Event (TOE)'.

ETS has a unique facility of 'Online Comparison Chart' which is dynamically updated as each online bid is opened. The format of the chart is based on inputs provided by TCIL for each Tender. The information in the Comparison Chart is based on the data submitted by the Bidders. A detailed Technical and/ or Financial Comparison Chart enhance Transparency. Detailed instructions are given on relevant screens.

ETS has a unique facility of a detailed report titled 'Minutes of Online Tender Opening Event (TOE)' covering all important activities of 'Online Tender Opening Event (TOE)'. This is available to all participating bidders for 'Viewing/ Downloading'.

2.20.9 Other Instructions

For further instructions, the Bidder should visit the home-page of the portal (https://www.tcil-india-electronictender.com), and go to the **User-Guidance Center** The help information provided through 'ETS User-Guidance Center' is available in three categories – Users intending to Register / First-Time Users, Logged-in users of Buyer organizations, and Logged-in users of Supplier organizations. Various links are provided under each of the three categories.

Important Note: It is strongly recommended that all authorized users of Supplier organizations should thoroughly peruse the information provided under the relevant links, and take appropriate action. This will prevent hiccups, and minimize teething problems during the use of ETS.

The following '**FOUR KEY INSTRUCTIONS for BIDDERS**' must be assiduously adhered to:

i) Obtain individual Digital Signature Certificate (DSC or DC) well in advance of tender submission deadline on ETS

ii) Register your organization on ETS well in advance of tender submission deadline on ETS

iii) Get your organization's concerned executives trained on ETS well in advance of tender submission deadline on ETS

iii) Submit your bids well in advance of tender submission deadline on ETS (There could be last minute problems due to internet timeout, breakdown, etc.) While the first three instructions mentioned above are especially relevant to first-time users of ETS, the fourth instruction is relevant at all times.

2.20.10 Minimum Requirements at Bidders end

- Computer System with good configuration (Min P IV, 1 GB RAM, Windows XP SP3)
- Broadband Internet Connectivity.
- Microsoft Internet Explorer 6.0 or above
- Digital Certificate(s)

2.20.11 Bidders Training Program

One day training (10:00 hrs. to 17:00 hrs.) is arranged on payment basis which is scheduled on 21-07-2014 at TCIL Bhawan, Greater Kailash-I, New Delhi-110048. Training is optional. Bidders opting for Training shall have to pay Rs. 2,500 + Service Tax @12.36% by Demand Draft in favor of "Telecommunications Consultants India Limited" payable at New Delhi and are required to carry a Laptop with device for Wireless Connectivity to Internet as TCIL will not provide Internet connectivity to the trainees. Bidders are required to inform number of participants from their organization latest by 20-07-2014 at 15:00 hrs to the email-id of e-Tendering Helpdesk mentioned in the Contact Information given in Section 1.

2.21 INTEGRITY PACT PROGRAMME

2.21.1 As a part of implementation of Integrity Pact Programme (IPP) in TCIL, all tenders with the estimate value equal to or exceeding the threshold value will be covered under the Integrity

Pact Programme (IPP) and the vendors are required to sign the IP document and submit the same to TCIL before or along with the bids.

The present threshold value is Rs. Three Lakh (Rs. 3 Lakh).

2.21.2 Even in case of tenders with the estimated value less than the threshold value, the vendors would be required to sign the IP document if the total value of the Purchase Orders (Pos) exceeds the threshold value in respect of:

- Multiple/repeat Pos on the single vendors against a tender
- Pos placed on multiple vendors against a tender

2.21.3 Only those vendors who have purchased the tender document and signed the IP document can send their grievances, if any, to the Independent External Monitors (IEMs) through the nodal officer, i.e. Chief Vigilance Officer (CVO). TCIL in the prescribed proforma.

Name of IEMs with their contact Details:

i) Shri. N. P. Gupta, Independent External Monitor
E-mail ID: enpeeg33@hotmail.com

ii) Sh. Samir Kumar Singh, Independent External Monitor
Email ID: samir_k_singh@yahoo.com

Name & contact details of Nodal Officer (IP) in TCIL:

Sh. K. Selvakumar, Chief Vigilance Officer

E-mail ID: selvakr@tcil-india.com

2.21.4 If the Order, with total value equal to or more than the threshold value, is split to more than one vendor and even if the value of PO placed on any/each vendor(s) is less than the threshold value, IP document having been signed by the vendors at bid stage itself, the Pact shall continue to be applicable.

2.21.5 In respect of tenders for Pre-bid tie up/Expression of Interest (EOI) : In case of TCIL getting the Order from the client, before placement of Purchase Order/Work Order on technically & commercially qualified vendor, the selected vendor is required to sign the IP document.

2.21.6 IP document shall be in plain white sheet and to be signed by the vendor and TCIL with two witnesses from each party. The name, designation, company etc. of the persons signing the IP document and the project/tender name shall be clearly mentioned. All pages of the IP document shall be initialed by both parties along with company seal.

2.21.7 **Tender received without signed & stamped copy of the Integrity Pact document will be liable to be rejected, and the bidder himself will be responsible for that.**

2.22 In case of any conflict in any of the terms mentioned at Section-4, the same shall prevail over the terms mentioned in other sections.

-END OF SECTION 2-

SECTION - 3

Tender No.: TCIL/ **TCIL/15/1597/I/14-MM/16E** **July 15, 2014**

GENERAL (COMMERCIAL) CONDITIONS OF THE CONTRACT

3.1 PRICE APPLICABILITY

Prices in the Purchase/Work Order shall remain valid for the period of delivery schedule or extended delivery schedule. In case of delayed supplies/services, after delivery period, the advantage of reduction of taxes/duties shall be passed onto the Purchaser and no benefit of increase will be permitted to the bidder.

3.2 STANDARDS

The goods/services supplied under the contract shall conform to the standards mentioned in the Section 6.

3.3 PATENT RIGHTS

The Supplier shall indemnity the Purchaser against all third party actions/claims of infringement of patent, trademark or industrial design rights arising from the use of goods /services or any part thereof.

3.4 PERFORMANCE SECURITY

3.4.1 Within 10 days of the Supplier's/service provider receipt of Letter of Intent (LOI)/P.O, the Supplier/service provider shall furnish a Performance Security for the amount of 10% of the contract/P.O value.

3.4.2 The proceeds of the Performance Security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the contract.

3.4.3 The Performance security shall be in the form of Bank Guarantee issued by a Scheduled Bank situated in India and in the format provided in the tender document at section 9.

3.4.4 The Performance security will be discharged by the Purchaser after completion of the Supplier's obligations including any warranty obligations under the contract.

3.4.5 As regards validity of PBG, please refer to Special Conditions of the contract (Section-4).

3.5 CHANGE ORDERS

3.5.1 The Purchaser may at any time by written order given to the Supplier/service provider make changes within the general scope of the contract in any one or more of the following:-

a) Drawings, designs or specifications where goods/services to be furnished under the contract are to be specifically manufactured for the Purchaser.

b) Method of transportation or packing, if any.

c) Place of delivery / services.

d) Services to be provided by the supplier/ service provider.

3.5.2 If any such change causes an increase or decrease in the cost or the time required for the execution of the contractor, an equitable adjustment shall be made in the contract price or delivery schedule or both and the contract shall accordingly be amended.

3.6 SUB-LETTING

The Bidder cannot assign or transfer and sub-contract its interest/ obligations under the contract without prior written permission of the Purchaser.

3.7 LIQUIDATED DAMAGES

3.7.1 For Delays:-

Time and date of satisfactory commissioning of the integrated system shall be essence of the contract. If the supplier fails to do this with in the period specified in the award of contract, TCIL shall, without prejudice to its other remedies under the contract, deduct liquidated damages from the contract price not by way of penalty. This is an agreed, genuine pre-estimate of damages duly agreed by the parties. Recovery from the supplier as agreed liquidated damages will be calculated @0.5 Percent of the price of the total project delayed for each week of delay or part thereof, until actual successful commissioning of the network system up to a maximum deduction of 10 percent of the cost of contract price.

3.8. TERMINATION FOR DEFAULT

3.8.1 TCIL may without prejudice to any other remedy for breach of contract by written notice of default sent to the supplier, terminate the contract in whole or part:

(a). If the supplier fails to complete the installation, testing , commissioning and satisfactory performance within the time period(s) specified in the contract, or within any extension thereof granted by TCIL or

(b) If the supplier fails to perform any other obligation(s) under the contract.

(c) If the supplier, in the judgment of the client, has engaged in fraud and corruption, in competing for or in executing the contract.

3.8.2 In the event TCIL terminates the contract in whole or in part, pursuant to clause TCIL may procure upon such terms and in such manner, as it deems appropriate, equipment or services similar to those undelivered, and the supplier shall be liable to TCIL for any excess costs for such similar equipment or services. However, the supplier shall continue the performance of the contract to the extent not terminated.

3.9 TERMINATION FOR INSOLVENCY

3.9.1 TCIL may at any time terminate the contract by giving written notice to the supplier, if the supplier becomes bankrupt or otherwise insolvent. In this event, terminations will be without compensation to the supplier, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to TCIL.

3.10 TERMINATION FOR CONVENIENCE

3.10.1 TCIL by written notice sent to the supplier, may terminates the contract, in whole or in part at any time for its convenience. The notice of termination shall specify that termination is for the client's convenience, the extent to which performance of the supplier under the contract is terminated, and the date upon which such termination becomes effective.

3.10.2 The equipment that is complete and ready for shipment within 30(thirty) days after the supplier's receipt of notice of termination shall be accepted by TCIL at the contract terms and prices. For the remaining equipment, the

TCIL may elect:

(a). to have any portion completed and delivered at the contract terms and prices, and/or

(b). to cancel the remainder and pay to the supplier an agreed amount for partially completed equipment and for materials and parts previously procured by the supplier.

3.11 ARBITRATION

3.11.1 In the event of any dispute arising between TCIL and the Supplier/ service provider in any matter covered by this contract or arising directly or indirectly there from or connected or

concerned with the said contract in any manner of the implementation of any terms and conditions of the said contract, the matter shall be referred to the Chairman & Managing Director, TCIL who may himself act as sole arbitrator or may name as sole arbitrator an officer of TCIL notwithstanding the fact that such officer has been directly or indirectly associated with this contract and the provisions of the Indian Arbitration Conciliation Act, 1996 shall apply to such arbitration. The supplier expressly agrees that the arbitration proceedings shall be held at New Delhi.

3.11.2 The proceedings of arbitration shall be in English language:

3.11.3 In case any supplier wants to take the dispute to a court of law after arbitration award as aforesaid, it is clearly understood that only courts in Delhi shall have the Jurisdiction.

3.11.4 In case of Public Sector Undertaking/Government Departments

In the event of any dispute or difference relating to the interpretation and application of the provisions of the contracts with any Public Sector Undertaking / Government Department, such dispute or difference shall be referred by either party for Arbitration to the sole Arbitrator in the Department of Public Enterprises to be nominated by the Secretary to the Government of India in-charge of the Department of Public Enterprises. The Arbitration and Conciliation Act, 1996 shall not be applicable to arbitration under this clause. The award of the Arbitrator shall be binding upon the parties to the dispute, provided, however, any party aggrieved by such award may make a further reference for setting aside or revision of the award to the Law Secretary, Department of Legal Affairs, Ministry of Law & Justice, Government of India. Upon such reference, the dispute shall be decided by the Law Secretary or the Special Secretary / Additional Secretary, when so authorized by the Law Secretary, whose decision shall bind the Parties finally and conclusively. The Parties to the dispute will share equally the cost of arbitration as intimated by the Arbitrator.

3.12 RISK PURCHASE

3.12.1 In the event of Supplier's failure to execute the contract to the satisfaction of the Purchaser, the Purchaser reserves the right:

(a) to reject any part of the Contract executed and withhold payment for such portion of the Contract till such time the defects are rectified to the satisfaction of the Purchaser.

(b) to terminate the Contract by giving 2 weeks notice in writing without assigning any reason and to get the Contract executed by other agency at the risk and cost of the Supplier.

(c) If rectification is not done within reasonable time up to maximum of 15 days after one week notice for rectification, the contract of supplier will have to be terminated and the Contract will be executed by other agency at the risk and cost of the Supplier and the excess money will be adjusted against dues payable to the supplier.

3.13 APPLICABLE LAWS

This contract shall be interpreted, construed and governed by the laws of the Republic of India and the parties hereby submit to the exclusive jurisdiction of the Court and to all Courts having jurisdiction in appeal there from.

Any dispute in relation to the contract shall be submitted to the appropriate Court of the Republic of India for determination. The parties to the contract shall continue to fulfill their respective obligations under the contract during the currency of the contract pending the final decision of the Court.

3.14 GENERAL LIEN

Whenever under this contract any sum of money is recoverable from and payable by the Supplier, the Company shall be entitled to recover such sum by appropriating in part or in whole the security deposit of the Supplier, if a security is taken from the Supplier. In the event of the Security being insufficient or if no security has been taken from the Supplier, the balance or the total sum recoverable, as may be, shall be deducted from any sum due to the Supplier or which at any time thereafter may become due to the Supplier under this or any other contract with the Company. Should this sum be not sufficient to cover the full amount recoverable, the Supplier shall pay to the Company on demand the remaining balance due.

3.15 REPLACEMENT OF DEFECTIVE EQUIPMENT/ SERVICES

3.15.1 If any service or any part thereof, is found fails to meet the requirements of the contract before it is accepted TCIL shall give the Supplier/ service provider a notice setting forth details of such failures and the Supplier/ service provider shall forthwith arrange to set right the defective equipment/services or replace the same by the service one to make it comply with the requirements of the contract. This in any case shall be completed within a period not exceeding one week from the date of the initial report pointing out the defects/failure of

services. The replacement or rectification shall be made at site by the Supplier/ service provider free of cost. Should the Supplier fail to do the needful within this stipulated time frame, the purchaser reserves the right to reject the equipment/service in full or in part and get it replaced at the cost of the Supplier. The cost of any such replacement made by the Purchaser shall be deducted from the amount payable to the Supplier/ service provider against this purchase order.

3.16 FORCE MAJEURE

If any time, during the continuance of this contract, the performance in whole or in part by either party under obligation as per this contract is prevented or delayed by reasons of any war or hostility, act of the public enemy, civil commotion, sabotage, fire, flood, explosion, epidemic, quarantine restrictions, strike, lockout or acts of God (hereinafter referred to "eventuality"), provided notice of happening of any such eventuality is given by either party to the other within 21 days of the date of occurrence thereof, neither party shall be reason of such an "eventuality" be entitled to terminate this contract nor shall either party have any claim or damages against the other in respect of such non-performance or delay in performance and deliveries under the contract. The contract shall be resumed as soon as practicable after such "eventuality" has come to an end or ceased to exist. In case of any dispute, the decision of CMD, TCIL, shall be final and conclusive, provided further that if the performance in whole or part of any obligation under this contract is prevented or delayed by reason of any such eventuality for a period exceeding 60 days, either party may at its option, terminate the contract. Provided also that if the contract is terminated under this clause the Purchaser shall be at liberty to take over from the Supplier at a price to be fixed by the Purchaser, which shall be final, all unused, undamaged and acceptable materials, bought out components and other stores in the course of manufacture which may be in the possession of the Supplier at the time of such termination, or such portion thereof as the Purchaser may deem fit except such material, as the Supplier may, with the concurrence of the Purchaser, elect to retain.

3.17 ADD ON/REPEAT ORDER

TCIL reserves the right to place Additional order up to 50% of the original order within the supplier on the same rate and terms & conditions of the purchase/ works order any time between the awards of contract up to 30 days before the last supply on the mutually agreed delivery schedule. However, for single unit item, the client may order up to 100 % of the original order.

- END OF SECTION 3 -

SECTION – 4

Tender No.: **TCIL/15/1597/I/14-MM/16E** **July 15, 2014**

SPECIAL CONDITIONS

4.1 IMPLEMENTATION SCHEDULE

Implementation Plan: Deliverables / Activities Time Lines

The services of the bidder will commence from the date of issue of Letter of Intent (LOI)/P.O. to the successful bidder. The selected bidders would be required to deliver the following according to timelines given below:

Sl. No.	Deliverables / Activities	Timelines
1.	Issue of Letter of Intent (LOI)/ P.O. to the successful bidder	T0
2.	Supply of all equipments shall be within	T1= T0+42 days
3.	Installation, commissioning and integration of all equipment.	Within T2 = T1+ 30 days
4.	Acceptance Testing and Training	T3= T2 +10 days
5.	Performance supervision work for three months	T4=T3 + 90 days

4.2. PAYMENT SCHEDULE

The payment schedule for the Supply, Installation, commissioning of Audio -Video equipments, ICT equipments, related hardware's/ software's, VC Solution and accessories for setting up of teacher end studio and remote class rooms with warranty support for NCERT.

Sl. No.	Installment	% of Total Value	Time of Payment
1.	First Installment	50% of total value of supplied components	Payment shall be processed within 15 days from the Delivery of Material at site in good condition and upon submission of invoice by the supplier/bidder.
2.	Second Installment	30 % of total components supplied value	On installation, commissioning, training and acceptance of equipment by the client (NCERT)
3.	Final Installment	Payment for services and balance component supplied	On completion of three months of satisfactory performance from the date of acceptance

Payment shall be made back to back basis within 15 working days of receipt of payment by TCIL from the client.

4.3 Evaluation

An Evaluation Committee formed by TCIL would examine both the techno-commercial and price offers based on the details provided in this Tender. Technical evaluation will be based on the submitted technical solution and proposal.

- NCERT holds custom & excise exemption certificate for all the sites except SIET Pune, SIET Hyderabad and SIET Ahmadabad. Bidder shall quote making best use of this exemption certificate ensuring non levy of these duties. **However, evaluation will be made on total value except custom & excise duty. But for the sites SIET Pune, SIET Hyderabad and SIET Ahmadabad evaluation will be made on total value all inclusive of custom & excise duty.**
- Cost of non comprehensive AMC at site for 5 year after the warranty period will be included for comparison of Price Offers of technically qualified bidders for determining the L-1 quote.
- The quantity is mentioned in the tender document are provisional quantities and may vary during implementation by successful bidder**. However, the evaluation of the Price offers of technically qualified bidders would happen on the mentioned quantities. Successful bidder shall be paid on actual basis.** After the warranty period is over, a separate agreement between NCERT and successful bidder may be entered for Annual Maintenance Contract (AMC) at the discretion of NCERT.

4.3.1 Selection Process

Following procedure shall be adopted in evaluating the proposals:

(I) Pre-qualification/eligibility criteria would be evaluated first.

(II) The technical bid/ offers of the bidders meeting the pre-qualification/eligibility criteria would be evaluated. If required, TCIL will invite all the eligible bidders to make a technical presentation on the proposed technical solution and technical offers submitted at TCIL. Bidder is required to give the demo of the proposed solution for video conferencing system with all the necessary setup.

(III) In the second stage, price offers of those who have qualified technically would be opened and evaluated. Price Offers would be ranked on the basis of lowest rates quoted. The work will be awarded to successful L1 bidder.

4.4 Award of Contract

- The evaluation committee will determine whether the financial proposal/ information are complete in all respects and the decision of the evaluation committee shall be final.

4.5. Price Basis

The bidder shall quote all prices in Indian Rupees (INR).

The prices shall be firm till the completion of the contract. Price quoted by the bidders should be as per the price bid format. The break-up of taxes included in the bid price such as Custom Duty, excise, VAT, Service Tax, octroi & Any Other Tax (to be specified) may please be mentioned clearly in the Price Bid Schedule. Bidder will be responsible for deliveries at sites including custom clearance, transportation cost etc. Any exemption/partial exemption of custom duty for the imported material should be availed for which necessary letter for the use of goods by the client (NCERT) will be issued on request. Required Tax Invoices for VAT and Service Tax etc. will be submitted by the supplier. TCIL/ NCERT reserves the right to place order for AMC after warranty period.

Bidder is required to quote for the complete BOQ. Partial quotes are liable to be rejected.

Note:

- **NCERT being a research organization on National level, is exempted from paying custom duty and central excise at all sites except SIET Pune, SIET Hyderabad and SIET Ahmadabad. The custom duty and central excise exemption certificate will be provided, wherever needed and as per need only for the equipment to be supplied to RIE's and CIET sites of NCERT.**

4.6 Liquidated Damages (LD)

Refer clause 3.7.

4.7. Consignee & Inspection Authority

Consignee: NCERT (RIE)

Site wise consignee details of NCERT are as per annexure C.

Inspection Authority will be

General Manager (NW/DC)

6th Floor, TCIL Bhawan, G.K.-I

New Delhi – 110048

And NCERT representative

4.8. Paying Authority

Group General Manager (LPF)

3RD FLOOR, TCIL BHAWAN, G.K.-I

NEW DELHI-110048.

4.9. Delivery

Refer clause 4.1.

4.10. Performance Bank Guarantee (PBG)

a) The bidder shall be required to furnish PBG Within 10 days from the date of receipt of Letter of Intent (LOI)/P.O for a value equivalent to 10% of value of Works Order/ Purchase Order valid for a period of 60 (sixty) days beyond the date of completion of all contractual obligations of the supplier including warranty obligations in the prescribed TCIL format issued by a Scheduled Bank from its branch in Delhi.

4.11. General

Bidders are required to familiarize themselves with the local conditions for supply, installation and commissioning of the project before submission of their proposal.

a) TCIL reserves the right to reject any or all the offers without assigning any reason.

b) The successful bidder is required to closely interact and coordinate with all concerned for successful services.

c) TCIL reserves the right to increase/decrease the numbers/quantities depending upon requirements.

e) Successful bidder shall have to provide list/details of team/members with contact details etc. in hard as well as soft copy form

f) Successful bidder shall have to provide at least one set of manuals for each site for installation, acceptance testing, operation and maintenance of the equipment in hard as well as soft copy form.

g) During the Warranty period any cost incurred on the transportation of faulty equipments shall be borne by the successful bidder.

4.12. Inspection

Inspection of Supply, Installation and commissioning may be carried out any time at the discretion of TCIL/NCERT. Inspection done by officials of NCERT/ TCIL will be final.

4.13 Period of Warranty:

All equipment and systems supplied by the Supplier shall be guaranteed against any defects. It shall be comprehensive warranty in which the required spares and software upgrades/patches shall be provided by the bidder free of cost.

1. The supplier warrants that the Equipment supplied under this Contract are new and first quality, unused and of the most recent model. The supplier further warrants that all Equipment supplied under this contract shall have no defect (even concealed) arising from design, materials or workmanship or from any act or omission of the supplier, which may develop under normal use of the supplied Equipment.

2. This warranty shall remain valid for 15 (fifteen) months after the equipment or any portion thereof as the case may be have been delivered to the final destination and taken over by the consignee to the entire satisfaction of the client or 12 (twelve) months from Installation, testing, commission and satisfactory performance of the system whichever is later.
3. Upon receipt of such notice, the Supplier shall, with all reasonable speed, replace the defective Equipment or parts thereof, free of cost at the ultimate destination. The supplier shall take over the replaced Equipment at the time of their replacement. No claim whatsoever shall lie on the client for the replaced Equipment thereafter.
4. If the supplier, having been notified, fails to remedy the defect(s) within a reasonable period, the client may proceed to take such remedial action as may be necessary, at the supplier's risk and expense and without prejudice to any other rights which the client may have against the Supplier under the contract.
5. The warranty for defective Equipment will begin de novo from the date of the replacement. Supplier will pay all taxes, and duty (if required) and all expenses up to the destination for the replaced Equipment.
6. The supplier shall warrant/ensure after, sale service and availability of spares for the supplied equipment for a period of at least 5 years after the expiry of warranty period.

7. In non comprehensive AMC spare shall be store by client and vendor shall provide the diagnosis, fault rectification, and repair of the equipment as per requirement. However, no manpower is required at site during the AMC.

8. In comprehensive AMC, vendor shall provide the all inclusive support, service, fault rectification, repairs or any other required services for all the equipment. Spare is also store, maintained and provided by the vendor. However, no manpower is required at site during the AMC.

4.14. Quantity Variation

i) TCIL reserves the right to vary the quantity to be ordered under this tender by +/- 35% (plus/minus fifty Percent) at the same rate, terms and conditions agreed initially.

4.15. Penalties

(a) The work is to be completed within prescribed time schedule. Beyond permissible period, penalty shall be charged as per LD clause 3.7.

4.16. Training:

The supplier shall provide training to the client staff on the operation and management of all the Equipments/Hardware/Software etc. supplied under this tender. The detailed training proposal shall cover various topics and time schedule, which shall form part of technical proposal.

The supplier is also required to provide at his cost, onsite training for a period of 2-3 days in respective centers for installation, configuration, operation, troubleshooting and general maintenance of the Equipments/Hardware/Software etc. to the personal deputed by NCERT. The cost of boarding and lodging of trainees will be borne by the NCERT. Training material in soft and hard copy form will be made available to the trainees by successful bidder.

4.17. Acceptance Testing:

The system will be subjected to an acceptance testing procedure to test individual items and successful integration of all supplied items. The successful bidder shall be required to submit the detailed acceptance procedure and expected test results which shall be jointly approved by the Purchaser and Client for finalization. The specification of equipment should be in conformity with details provided in the bid offer and as per given specifications. The client/purchaser shall issue an Acceptance Certificate on successful completion of acceptance testing, commissioning of equipment and placing in service.

4.18 Project management and Deployment

Since the project implementation requires major technical and operational resources, it is expected that complete project is professionally managed to ensure it's timely and successful completion. Accordingly, a detailed project schedule shall be prepared by the successful bidder with specific start and end time of various activities which should be supported by well defined roles and responsibilities of individuals/groups. The appropriate deployment strategy, which may inter alia include coordination with the various agencies involved for procurement, deployment, testing and commissioning, testing and Training of users etc. should be in place for successful completion of this project. The bidders should strictly adhere to the project plan, as any delays in execution shall attract penalties.

4.19 Integration of all equipments:

The bidder shall integrate all Equipments supplied by him and those already owned and Installed by the Client to make the system integrated and fully functional to the complete Satisfaction of the Client. Any additional equipment/components/items/services etc.

required, apart from the tendered BOQ, shall be clearly specified in bid and provided for the successful completion of the project by the bidder. Completeness of the system will be responsibility of the bidder. If any material is found short during installation because of which equipment/solution is inoperable, it will be responsibility of the bidder to complete the system without any extra cost to the purchaser.

4.20 Documents:

Successful bidder shall supply one set of the following documents in hard & soft copy pertaining to the following at each site of implementation:

(i) Equipment Description & manuals

(ii) Installation & Testing Procedures

(iii) Operation & Maintenance Procedures

(iv) Acceptance Test Procedures

(v) As-built Design Documents and Drawings

4.21 Inspections and Tests:

1. TCIL as per the term of Reference will conduct inspection and testing.
2. The inspection and testing will be conducted on the premises of the buyer.
3. Should any Inspected and tested equipment fail to confirm to the specifications, TCIL may reject them and the supplier shall either replace the rejected equipment or make all alterations necessary to meet specification requirements free of cost to TCIL, within a period of 10 (Ten) days of intimating such rejection.
4. TCIL's right to inspect, test and where necessary, reject the equipment after the equipment arrival at the final destination shall in no way be limited or waived by reason of the equipment having previously been inspected, tested and passed by TCIL or its representatives prior to the equipment dispatch from the place of manufacture.
5. Nothing in Clause 4.21 above shall in any way release the supplier from any warranty or other obligations under this contract.

4.22 Insurance:

The goods must be duly insured to cover all risk including theft & fire in transit up to destination, storage at site, installation, commissioning and handing over of the sites complete in all respect as per the requirement of Tender. In case of Insurance Policy covering risk for storage at site and risk of loss during installations & commissioning up to handing over of sites, claim shall be payable to TCIL.

4.23 Non Comprehensive Annual maintenance contract :

Bidder shall quote cost of Post Warranty non Comprehensive Annual Maintenance Contract (AMC) charges for 5 year for all the equipments as specified in Price Bid Schedule including all taxes. Award of the AMC shall be at the discretion of TCIL and Client (NCERT) who reserve the right to award AMC to the successful bidder in part or full. Client shall have the option of entering into Annual Maintenance Contract (AMC) with the successful bidder for a period of one year at the price quoted in the bid. This shall be in effect from the date of expiry of the warranty period on completion of the warranty. As a part of the solution maintenance, the successful bidder will also provide software updates, patches/ fixes, upgrades, version upgrades, new version releases etc. with AMC charges.

Client (NCERT) reserve the right to outsource the maintenance of the systems to a third party or decide to perform the maintenance in-house. Whatever the case may be (either third-party or in-house maintenance), the successful bidder will have to provide to the persons/ agencies, authorized by Client (NCERT) for the purpose, requisite maintenance training, technical know-how, and expert assistance on terms mutually agreed upon between Client (NCERT) and the successful bidder at that time.

4.24 Spare:

Vendor should specify the recommended spare parts for each of the major equipment in price offer. However this will not be a part of commercial evaluation process.

S. No.	Item/Equipment	Unit price
1		
2		

4.25 Agreement:

The successful bidder shall sign the contract agreement and return it to the purchaser. Any incidental expenses of execution of agreement shall be borne by the successful bidder. Thereafter the successful bidder shall be referred to as “Contractor”.

4.26 Service Level Agreement (SLA):

The bidder should meet the service & support standards as specified in this tender.

i. **Resolution Time**: All the reports/complaints shall be resolved within one working day from the reporting time by the customer

ii. Penalty for delay in rectification shall be imposed on the following way.

Location	Resolution Time	Penalty
All	Within one working day of reports/complaints	Nil
	After one working Day of reports/complaints	1% per day of the cost of specific equipment requiring the service, subject to maximum of 10% of the equipment cost. NCERT/TCIL shall also reserve its right to rectify / procure the item at risk and cost of supplier/contractor after imposing the maximum penalty of 10%.

- END OF SECTION 4 -

BILL OF QUANTITY

5.1. Studio Room (Teacher end) at Regional Institute of Education(RIE), NCERT

S. No.	Specs available at Clause	Equipment Description	Qty (Nos.)at each location	Total Qty. in 5 RIE
1	**6.2.2.1**	Camera (Portable HD quality) with adaptor, remote and other accessories	03	15
2	**6.2.2.1**	Tripod	03	15
3	**6.2.2.1**	Video switcher (Multi view out) with essential connecting cables	01	05
4	**6.2.2.1**	Talk back system (4x matrix)	01	05
5	**6.2.2.1**	32” video monitor/T.V (LCD/LED)	02	10
6	**6.2.2.1**	Audio Mixer (8 channel) with essential connecting cables	01	05
7	**6.2.2.1**	Audio Monitoring System	01	05
8	**6.2.2.1**	VGA Converter	01	05
9	**6.2.2.1**	VDA	01	05
10	**6.2.2.1**	ADA	01	05
11	**6.2.2.1**	SDI to HDMI convertor (for studio fold back display)(optional)	01	05
12	**6.2.2.1**	Studio cool lights (LED Lights)	03	15
13	**6.2.2.1**	Hot Light Theatre Spot	01	05
14	**6.2.2.1**	46” LCD/LED monitor	01	05
15	**6.2.2.1**	DVD recorder	01	05
16	**6.2.2.1**	Character Generator with PC	01	05
17	**6.2.2.1**	Mic. Livelier wireless	02	10
18	**6.2.2.1**	Mic. Livelier wired	04	20
19	**6.2.2.1**	NAS based server system (48 TB)	01	05
20	**6.2.2.1**	Streaming PC (with A/v card)	01	05
21	**6.2.2.1**	Post production (NLE system with graphics and editing software) and external DVD writer	01 set	05 set
22	**6.2.2.1**	Video Ingest system	01 set	05 set
23	**6.2.2.1**	Video Graphics system	01	05
24	**6.2.2.16 & 6.2.2.17**	Videoconferencing system Teacher End with Desktop PC and all required licenses and accessories	01	05
25	**6.2.2.1**	De-Embedder	01	05
26	**6.2.2.1**	72" (6' x 4 ') wall mounted collapsible projection screen	01	05
27	**6.2.2.1**	Ultra short throw multimedia projector with active tools and	01	05

		accessories		
28	**6.2.2.1**	24 port Switch	01	05
39	**6.2.2.1**	42U Rack	01	05
30	**6.2.2.13**	UPS 4 KVA with one hours battery backup	02 (1+1)	10
31	**6.2.2.1**	Studio Table (Teacher Table)	01	05
32	**6.2.2.1**	Computer Chair	11	55
33	**6.2.2.1**	PCR Equipment Table	02	10
34	**6.2.2.1**	Computer Table/Workstation	02	10
35	**6.2.2.1**	All the necessary cable, connectors etc for Integration of the equipment	1 set	05 sets

5.2. ICT enable Class Room (5 Class rooms in each RIE), NCERT

S. No.	Specs available at Clause	Equipment Description	Qty (Nos.)	Total Qty. in all RIE
1	**6.2.2.2**	72" (6' x 4 ') wall mounted collapsible projection screen	01	25
2	**6.2.2.2**	Ultra short throw multimedia projector with active tools and accessories	01	25
3	**6.2.2.2**	Amplifier speakers	01	25
4	**6.2.2.2**	PTZ Analog color Camera with Remote controller and essential accessories	01	25
5	**6.2.2.2**	46” LED monitor/TV with stand / wall mount Kit	01	25
6	**6.2.2.2**	Wireless MIC(Hand held)	02	50
7	**6.2.2.14**	UPS 2 KVA with 30 Mins battery backup	01	25
8	**6.2.2.16 & 6.2.2.17**	Videoconferencing system for interactive Class room with Desktop PC and all required licenses and accessories	01	25
9	**6.2.2.2**	All the necessary cable, connectors etc for Integration of the equipment	As per requirement	

5.3. Conference room (One room in each RIE) :

S. No.	Specs available at Clause	Equipment Description	Qty (Nos.)at each location	Total Qty. in all RIE
1	**6.2.2.3**	Ultra short throw multimedia projector with active tools and accessories	01	05
2	**6.2.2.3**	72" (6' x 4 ') wall mounted collapsible projection screen	01	05

3	**6.2.2.3**	PTZ Analog color Camera with Remote controller and essential accessories**,**	01	05
4	**6.2.2.16 & 6.2.2.17**	Videoconferencing system with Desktop PC and all required licenses and accessories	01	05
5	**6.2.2.3**	Audio conference system (Delegate Unit)	10	50
	6.2.2.3	Secretary Unit	04	20
	6.2.2.3	Mic. With Podium	01	05
6	**6.2.2.3**	Audio Recorder	01	05
7	**6.2.2.3**	Amplifier Speakers	01	05
8	**6.2.2.3**	VGA converter	01	05
9	**6.2.2.3**	All the necessary cable, connectors etc for Integration of the equipment	As per requirement	

5.4. Requirements in CIET , New Delhi:

Studio 'A' Facilities				
S. No.	**Specs available at Clause**	**Equipment Description**	**Qty (Nos.)at each location**	**Total Qty. in CIET**
1	**6.2.2.4**	Mac Based Recording System	01	01
2	**6.2.2.4**	Audio Delay Unit	01	01
3	**6.2.2.4**	VGA convertor	01	01
4	**6.2.2.4**	Character Generator with PC	01	01

Server Facilities/ Transmission				
S. No.	**Specs available at Clause**	**Equipment Description**	**Qty (Nos.)at each location**	**Total Qty. in CIET**
1	**6.2.2.5**	NAS storage system with Ingest facility	01	01
2	**6.2.2.5**	Channel Branding	01	01
3	**6.2.2.5**	Analog to SDI Converter and Embedder	03	03
4	**6.2.2.5**	Mac Based video Recording/Playback system	01	01

Studio 'B' Facilities				
S. No.	**Specs available at Clause**	**Equipment Description**	**Qty (Nos.)at each location**	**Total Qty. in CIET**
1	**6.2.2.6**	Video Distribution Amplifier	07	07
2	**6.2.2.6**	Audio Distribution Amplifier	02	02
3	**6.2.2.6**	Mac Based Recording/Playback	01	01

		System		
4	**6.2.2.6**	Audio Delay Unit	01	01
5	**6.2.2.6**	Audio Mixer (12 channel)	01	01
6	**6.2.2.6**	VGA Converter	01	01
7	**6.2.2.6**	DVD recorder	01	01
8	**6.2.2.6**	Character Generator with PC	01	01
9	**6.2.2.6**	Wi-fi enabled Teleprompter (optional)	01	01

Graphic unit Room no 102				
S. No.	**Specs available at Clause**	**Equipment Description**	**Qty (Nos.)at each location**	**Total Qty. in CIET**
1	**6.2.2.7**	Mac Based Graphic System with NAS (24 TB) Video Card/convertor, Video Monitor and Tablet- 3 sets with suitable software	03	03

EDUSAT facility Room No- 136				
S. No.	**Specs available at Clause**	**Equipment Description**	**Qty (Nos.)at each location**	**Total Qty. in CIET**
1	**6.2.2.8**	32” LCD/LED video monitor/TV	02	02
2	**6.2.2.8**	LCD Video Monitor(triplet)- BASIC ANALOG FORMAT ONLY	01 set	01
3	**6.2.2.8**	DVD Recorder	01	01
4	**6.2.2.8**	Lapel microphones	06	06
5	**6.2.2.8**	LED light	02	02
6	**6.2.2.8**	Hot Light Theatre Spot	01	01
7	**6.2.2.15**	Online UPS (2KVA, 1 hr backup)	03	03
8	**6.2.2.8**	Character Generator with PC	01	01
9	**6.2.2.8**	Ultra short throw projector with active tool & accessories	01	01
10	**6.2.2.8**	72" (6' x 4 ') wall mounted collapsible projection screen	01	01
11	**6.2.2.8**	Audio Mixer (6 channel) with essential connecting cables	01	01
12	**6.2.2.8**	Misc. (Cable, Connectors, Installation Material etc.)	As per requirement	

Sound Studio Room no 029				
S. No.	**Specs available at Clause**	**Equipment Description**	**Qty (Nos.)at each location**	**Total Qty. in CIET**
1	**6.2.2.9**	Mac Based audio Recording System with Professional Audio card and	02 set	02

		Software Up gradation of Neundo SW		
2	**6.2.2.9**	Portable Audio recorder with external microphone	02 set	02

5.5. Requirements in SIET, Pune:

S. No.	**Specs available at Clause**	**Equipment Description**	**Qty (Nos.)at each location**	**Total Qty. in SIET, Pune**
1	**6.2.2.10**	Video Switcher	01	01
2	**6.2.2.10**	Audio Mixer(12 channel)	01	01
3	**6.2.2.10**	Studio Talkback System	01	01
4	**6.2.2.10**	Video recording/Playback System	02	02
5	**6.2.2.10**	ENG camera unit	02	02
6	**6.2.2.10**	Audio Monitoring system	01	01
7	**6.2.2.10**	46" LCD Video Monitor /TV	01	01
8	**6.2.2.10**	video monitor (TV)	02	02
9	**6.2.2.10**	Video graphics system	01	01
10	**6.2.2.10**	Character Generator with PC	01	01
11	**6.2.2.10**	Misc. (Cable, Connectors, Installation Material etc.)	As per requirement	

5.6. Requirements in SIET , Hyderabad:

S. No.	**Specs available at Clause**	**Equipment Description**	**Qty (Nos.)at each location**	**Total Qty. in SIET , Hyderabad**
1	**6.2.2.11**	Video Switcher	01	01
2	**6.2.2.11**	Studio Talkback System	01	01
3	**6.2.2.11**	46" LCD Video Monitor /TV	01	01
4	**6.2.2.11**	video monitor (TV)	02	02
5	**6.2.2.11**	Video recording System (Hard Drive Recording)	02	02
6	**6.2.2.11**	ENG camera unit	02	02
7	**6.2.2.11**	Editing NLE FCP with Video Monitor	01	01
8	**6.2.2.11**	LED Lights	02	02
9	**6.2.2.11**	Hot Light Theatre Spot	02	02
10	**6.2.2.11**	Audio Mixer (16 ch)	01	01
11	**6.2.2.11**	Video Graphic System	01	01

12	**6.2.2.11**	Character Generator with PC	01	01
13	**6.2.2.15**	UPS 2kva with one hour battery backup	01	01
14	**6.2.2.11**	Misc. (cable, connectors, installation material etc.)	As per requirement	

5.7. Requirements in SIET , Ahmadabad:

S. No.	**Specs available at Clause**	**Equipment Description**	**Qty (Nos.)at each location**	**Total Qty. in SIET , Ahmadabad**
1	**6.2.2.12**	Editing NLE (FCP) with video monitor	01	01
2	**6.2.2.12**	Character Generator with PC	01	01
3	**6.2.2.15**	UPS 2kva with one hour battery backup	01	01

Note: All the required accessories is to be incorporated to complete the system functional in all respect

Bill of materials: All essential items including cables, connectors, mounting kits, tripods, media converters, switches, equipment rack which are required for completion of the project to meet the specifications and scope of work shall be treated as included in the proposed solution and will have to be provided by the successful bidder without any additional cost. Bidders must not quote any end of life, obsolete products.

- END OF SECTION 5 -

SECTION - 6

Tender No.: TCIL/ **TCIL/15/1597/I/14-MM/16E** **July 15, 2014**

INFORMATION TO BIDDERS & SCOPE OF WORK

6.1 INFORMATION TO BIDDERS

6.1.1 Introduction

National Council of Educational Research and Training (NCERT), New Delhi, India has designated Telecommunications Consultants India Ltd., Government of India enterprise under the administrative control of the Department of Telecommunications (DOT), Ministry of Communications and Information Technology, as Project management Consultant for establishment of a state of art ICT infrastructure for Various Regional institute of education, SIETs and CIET under NCERT within India.

6.1.2 Purpose / Intent of Tender

The purpose / intent for tender is to appoint a system integrator for undertaking supply, installation, commissioning of ICT equipment, AV equipments, Video conferencing system for setting up of Studio (teaching end), class room and up gradation of existing setup at various NCERT sites across India.

6.1.3 Overview of NCERT Project

The Campuses of the NCERT i.e. National Institute of Education (NIE), Central institutes of educational Technology (CIET), New Delhi, Central institutes of Vocational education (CIVE), Bhopal and the five Regional Institutes of Education (RIE) at Ajmer, Bhopal, Bhubaneswar, Mysore and Shillong organize pre service and in service courses for teachers, teacher-educators and a range of personnel in education in different states of the Indian Union.

A. NCERT is desirous to setting up of a state of the art ICT infrastructure in the regional Institute of Education (RIE) for e-learning at the pre-service and in-service level
The tasks involved are as follows:

1. Installation, integration, testing and commissioning of the Media Studio (teaching End) and IT enabled classrooms/ conference rooms in regional institute of education (RIE's)at Ajmer, Bhopal, Bhubaneswar, Mysore and Shilong.

   The proposed expansion of facilities includes.

2. ICT Development facility including a media studio, capable of developing audio, video and multimedia teaching learning materials with the following facilities.
   - Studio Equipment
   - Post production equipment consist of
     - Editing System
     - Graphic and Animation system
     - NAS server

a. Internet based Video conferencing facility for organizing online teleconferencing and virtual classrooms between the different constituents of the NCERT, and expands to other teacher education clientele across the country.

b. ICT enabled classrooms capable of delivering interactive, audio-visual learning

B. Procurement and installation of Audio Video equipment for augmenting and upgrading the facilities at CIET, New Delhi and three SIETs situated respectively in Hyderabad, Pune and Ahmedabad.

Available internet lease line bandwidth in each campus is mention below:

Sr. No.	Name of RIEs, NCERT	Service provider	Existing Bandwidth (Mbps)	Additional bandwidth (under Progress) (Mbps)	Total after up gradation
1	RIE Ajmer	BSNL	50	0	50 MBPS
2	RIE Bhopal	BSNL	4	10	14 MBPS
3	RIE Mysore	BSNL	8	10	18 MBPS
4	RIE Shillong	BSNL	Applied for 4	10	14 MBPS
5	RIE Bhubaneswar	BSNL	2	10	12 MBPS

6.2 Scope of Work

TCIL wishes to engage a Systems Integrator (SI) who will undertake the following set of activities:

1. Supply, installation, testing and commissioning of one studio (teaching end) at each of five RIEs of NCERT. Location details are given at annexure A.

2. Supply, installation, testing and commissioning of 5 nos. of remote class rooms at each five RIEs of NCERT.
3. Supply, installation, testing and commissioning of video conferencing facilities for conducting interactive class at five RIEs of NCERT.
4. Supply and installation of Audio Video equipment for augmenting and upgrading the facilities at CIET, New Delhi and three SIETs situated respectively in Hyderabad, Pune and Ahmadabad. Location details are given at annexure A
5. Video conferencing facility should be also extended and provided to conference room.
6. Bidders are responsible to provide VC facilities to one conference room at each RIE and in conference room of CIET Delhi in addition to teacher rooms (studios) and class rooms at RIEs.
7. Providing the software/hardware or licenses for audio/video class room.
8. Bidder is required to mention and provide the quote for any other additional necessary requirement of hardware/software for providing the VC solution or fulfillment of desired solution.
9. Integration of Audio Video equipment with existing setup at CIET, New Delhi and three SIETs situated respectively in Hyderabad, Pune and Ahmadabad.
10. Studio (Teacher room) and class rooms at all RIEs are the new setup and civil work is under progress at all the sites.
11. The propose hardware/software or solution for RIE sites should support HD format.
12. CIET & SIETs sites are already in operation, there is requirement of up gradation with new equipments. The successful bidder is responsible for full integration of the existing equipments with the new installed equipment. For detail list of existing equipments, bidders may conduct the site survey of the respective sites.
13. For CIET and SIETs the propose equipments hardware/ software should must have support SD-SDI format.
14. Bidders are fully responsible to provide the any cable, connectors or hardware/software's etc. for integration. Bidders may conduct the site survey of SIET and CIET sites for proper understanding of requirements.
15. It is responsibility of successful bidder to provide all the necessary connectors, cables, glues etc. or any equipment for fulfillment of solution and requirement.
16. On-site warranty of all the equipments of from the date of commissioning of the system.
17. On-site training on different components of the proposed solution and Network setup to the NCERT staff at different centers as nominated by NCERT.

18. The interactive classroom setup should be internet based solution with HD quality of audio and video.
19. MCU/ Licenses for VC solution shall be installed centrally at CIET, New Delhi.
20. Bidders should mention and give their quotations for all the equipments, hardware/software for fulfillment of solution and VC solution.
21. The bidder are required to quote all the necessary hardware's/ software's for fulfillment of proposed solution.
22. The technical solution must be consisting of proper connectivity diagram, audio, video flow diagram.
23. Bidder should provide the equipment connectivity diagram, Audio/video flow diagram for each sites in their technical proposal.
24. The successful bidder should be responsible to the electrical wiring and connectivity of the UPS.
25. Bidder should provide the detail electrical layout of the connectivity.
26. Bidders are required to clearly mention and specify their requirement of the internet bandwidth at each location (studio, class rooms and central location) for conducting the interactive class room.
27. Bidder should have to provide and quote all the related hardware, software, licenses or any additional requirements (central and remote) for Video conferencing solution for conducting the classes from Teacher studio to all location.
28. Bidder is fully responsible for integration of the solution.
29. The proposal must contain the propose make and model and data sheet for each of equipment.
30. Bidder should provide escalation matrix, help desk number, local contact number and email ids for co-ordination, and complain login and customer support.
31. During warranty period, complain must be resolve within next working day after the complain lodge by the client.
32. System Integration will require the interconnection and integration of all the equipments proposed in the offer, Studio equipments, PCR and Non-linear Editing systems, for a smooth workflow and a seamless transmission. All broadcast and data cables, broadcast peripherals, digital glues, networking peripherals and all installation materials shall be of reputed make and provided by successful bidder.

6.2.1 Functional requirement of Studio room (Teacher End) and class rooms solution:

Following are the minimum requirement which should be fulfilled by proposed solution:

1. There will be a provision of one studio (teacher end) and 5 class room in all 5 RIEs. Classroom structure may be flat or gallery type.
2. At any location teacher conducting class with students, should be able to deliver lecture to all other centers (25 in number) simultaneously at HD quality with interaction with students.
3. Teacher should be able to share his/ her PC/ Laptop etc for presentation like ppt, movies, images etc in VC class.
4. All the recording shall be stored in the NAS.
5. Play back of recorded system through Ingest.

6. **Features used by Teacher (Studio Room):**

- **Conduct Online Class/ presentation:** As a Teacher, he/she conducts the session for participants sitting in classroom. During presentation he/she performs various activities in the classroom. He/ She can load the presentation slide, document etc. that will be displayed to participants.
- **Explain concepts using Whiteboard:** Teacher can use whiteboard to explain some of the topic, which may not be able to explain via presentations, or to solve any particular doubt asked by the participant.
- **End Session:** Using this function the teacher can end the session. This feature removes all the resources that are uploaded by the presenter during the presentation. Cameras installed at studio room should focus to the speaker during lecture session.
- Teacher shall be able to select any requested student and give permissions to enable the required collaboration tools for interaction between them.

7. **Features used by Participants in Class Room**

- **View online Class/session:** When a classroom joins the session, they can view the class/presentation, which are conducted by the teacher/presenter in the Studio room. The presentation may include the PowerPoint presentation slides, word document, PDF, Audio files, Video files etc. or it may also include the snap of the whiteboard on which the presenter can explain the concepts to the participants.
- **Raise Hands:** Whenever any participant will have any doubt, then he/she can tell that to presenter by using the hands up facility available in the user interface of the participant.
- **Camera**: The camera shall primarily be wall/ceiling mounted to capture participating students. Cameras installed at class room should focus to the speaker (listeners) during lecture session.

6.2.2 Technical Specification as per BOQ:

6.2.2.1 Studio room (Teacher End)

Bidders must submit the propose make & model of equipment with the compliance sheet:

S/No	Equipment/ Item	Equipment/Item Description	Compliance
1	**Camera**		
		Lens with minimum 12x Optical zoom with minimum 160x Digital zoom or higher	
		Maximum still image recording MAX. 7.1M (3072 x 2304 pixels, 4:3)	
		Imaging system 1/4-inch type Exmor R CMOS with Clear Vid pixel array	
		Picture elements with minimum 4200K pixels (gross) or higher	
		Focal length 16:9 video mode:29.8 to 357.6mm 4:3 video mode:36.5 to 438mm 16:9 photo mode: 29.8 to 357.6mm 4:3 photo mode: 27.4 to 328.8mm	
		Video Output HDMI, Component and Composite	
		Playback/Recording (24 Mbps) Dolby Digital 2ch recording	
		Effective pixels 16:9 video mode: Approx. 2650K pixels 16:9 photo mode: Approx. 2650K pixels	
		A/V Output HDMI, Component and Composite	
		Recording format HD: MPEG-4 AVC/H.264 (AVCHD) SD: MPEG-2 PS	
		Mic Input Stereo mini jack	
		Frame rate AVCHD FX(24 Mbps) or Similar 1920x1080/50i 16:9 AVCHD FH(17 Mbps) 1920x1080/50i 16:9 AVCHD HQ(9 Mbps) 1440x1080/50i 16:9 AVCHD LP(5 Mbps) 1440x1080/50i 16:9 MPEG2 SD HQ(9 Mbps) 720x576/50i 16:9, 4:3	
		Remote Connector Stereo mini-minijack	
		HDMI output HDMI Connector	
		Built-in output devices:	
		Headphones Stereo mini jack	
		USB Mini-AB/Hi-Speed	
		LCD viewfinder minimum 0.2-inch type	
		LCD monitor minimum 2.7-inch type, Clear Photo LCD plus	
		Internal Memory minimum 32GB or higher	
		AC Adaptor, Battery Rechargeable Battery Pack, Cables	

		Composite Cable USB Direct Copy Cable, Lens protection Lens Cap (small), Lens Hood, Microphone and Windscreen Eye Cup Large size eye cup, Others PMB software, power cord	
		Supplied complete Accessories with camera	
		Additional Accessories:	
		Memory Card minimum 32GB or higher	
		Multi Card Reader: Should support SD, xD, mini SD, micro SD, MMC, SDHC, Compact Flash, Smart Media Card with Cable for connectivity	
		Spare Rechargeable Battery with each camera with battery charger	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
2.	**Tripod**		
		Payload : 5kg or more	
		Pan angle : 360°	
		Tilt angle : +80° /-90° or better	
		Counterbalance, Pan & tilt drag control : Fixed	
		Tripod mount ball is must.	
		Pan bar to be present	
		Tripod Two stage aluminum tripod	
		Spreader Mid-level spreader	
		Max. height (system) 1570mm or better	
		Min. height (system) 740mm or better	
		Transportation length (system) 826mm or better	
		Carring case Soft case	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
3	**Video Switcher (Multi view Out)**		
		System Specifications Detail:	
		Video Formats HD mode: HD (1080/59.94i, 1080/50i, 720p/59.94p,720/50p)	
		SD mode: SD (480/59.94i, 576i/50i)	
		Image Effect Specifications Detail: Effect Transition (Fader, AUTO): MIX, WIPE ,DME WIPE(including P in P)	
		Inputs and Outputs Specifications Detail:	
		Video Input HD mode: HD-SDI x 4: BNC ,HDMI x3 DVI-I x 1: SXGA, WXGA, XGA, HDTV60(1080/60p), HDTV50(1080/50p)	

		Video Output HD mode: HD-SDI x 4 (PGM (act as AUX) x 2, AUX x 2) : BNC ,DVI-I x 1 (WUXGA, HDTV, SXGA, WXGA, XGA)	
		SD mode: SD-SDI x 4: BNC ,Composite x3: BNC DVI-I x 1: SXGA, WXGA, XGA	
		Reference Input HD mode: Analog black burst or Tri-level sync: BNC, with Loop through: BNC	
		SD mode: Analog black burst: BNC, with Loop through: BNC	
		GPI/TALLY Output D-sub 15-pin x 1D-sub General Specifications	
		Composite (AUX) x1: BNC , Reference Outputs HD mode:	
		Analog black burst or Tri-level sync: BNC	
		SD mode: SD-SDI x 4 (PGM (act as AUX) x 2, AUX x 2) : BNC , DVI-I x 1 (SXGA, WXGA, XGA)	
		CUT DSK Chroma key, Luminance key, Linear Key	
		Interface Specifications Detail: Remote RS-232 x 1: D-sub 9-pin (for switcher control from external devices)	
		All necessary cables and connectors including DVI – D to composite video Converter for connecting normal LCD TV and to make the system compatible should be provided with complete accessories.	
4	**Talk Back System (4x matrix)**		
		19" 1U rack design	
		Supports 4-Way Intercom and scalable upto 8	
		Enables communication between the camera crew	
		Bi-colour tally light indicator	
		Selectable channel talk, broadcast to all or mute.	
		Additional external earphone and microphone interface	
		Full-Duplex design to eliminate the environmental noise	
		Supplied complete with Gooseneck Microphone and Light	
		Communication distance up to 200 meters	
		Provision of Anchor/Presenter In Ear set	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
5	**32" Video monitor/TV**		
		Visible screen size (diagonal): 32 inches	
		Panel: LCD/LED	
		Display Resolution : 1366x768 pixels or better	
		Standard Audio / Video I/O options	

		Video Signal: 480/60i, 480/60p, 576/50i, 576/50p, 720/60p, 720/50p, 1080/50i, 1080/60i, (HDMI / MHL: 720/24p, 720/30p, 1080/24p, 1080/30p), (HDMI / Component: 1080/60p , 1080/50p)	
		USB, HDMI ports, composite IN, Component IN	
		Speakers:- Surround Sound,	
		BIS certification	
		Energy Star Compliance	
		All accessory items and cables are required for LCD connectivity with wall mounting Kit and TV stand with Kee Lite aluminum fittings and aluminum pipe.	
6	**Audio Mixer (8 Channel)**		
		Should have 8+2 channel frame sizes	
		Should have Built-in 24 bit Lexicon digital effects processor	
		32 FX settings	
		TRS insert sockets and inserts on all mono inputs	
		Tap Tempo and FX setting store function	
		Intuitive and comprehensive solo system	
		1 configurable auxiliary bus	
		XLR-type and ¼” metal jack connector sockets	
		1 FX send on each channel	
		3-band EQ on stereo inputs and swept mid on mono inputs	
		Headphone output	
		Easily rack mountable	
		Ten-segment LED output metering	
		RCA phono stereo playback inputs and record outputs	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
7	**Audio Monitoring System**		
		System Two-way active near field monitor	
		Frequency Response (+/-3dB) 35 Hz - 21 kHz	
		Bass Principle Bass reflex	
		Tuning Frequency Minimum 35 Hz or higher	
		Tweeter 1" wide dispersion silk dome	
		Woofer 8.5" PPB cone with aluminum short circuiting ring and rigid aluminum basket	
		Magnetically shielded/compensated Shielded and Compensated	
		Cross over frequency min. 2.5 kHz or higher	
		Cross over slope 24 dB/oct (LP and HP)	
		Input level for 85dB SPL @ 500-2000 Hz avg @ 1 m -15 dBu RMS @ 0 dB level setting	

		Input connectors Balanced XLR connector	
		Unbalanced RCA connectors	
		Power consumption Idle: .10W / Max: 180W or higher	
		Amplifier power Tweeter: min 60W / Woofer: 120W or higher	
		Internal cabinet volume 16.0 liters or higher	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
8	**VGA Convertor**		
		3G/HD/SD Up/Down/Cross convertor	
		Audio/HDMI/SDI/VGA input	
		3G/HD/SD SDI and HDMI output	
		Can be rack mounted using Rack solution	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
9	**VDA**		
		Analogue video, PAL/NTSC/SECAM	
		Passive loop through	
		6x outputs with gain & Eq. adjustments	
		Differential Looping Input	
		Modular/Standalone enclosure:	
		Electrical Input	
		Maximum input: 2 V p-p	
		Coupling: DC	
		Impedance: 75 ohm (switch able to high impedance)	
		Connector: BNC	
		Passive loop through is available with–C2 backplane	
		Electrical Output	
		Number of outputs: 6 or more	
		Connector: BNC	
		Impedance: 75 ohm	
		Signal polarity: 6 non inverting	
		Analog video	
		Frequency range: 0 to 200 MHz -3dB (useful for AES-3id)	
		Return loss: > 40dB @ 20MHz	
		Video S/N ratio: > 70 dB	
		Differential gain: < 0.1 %	
		Differential phase: < 0.1 º	
		Gain: 0 dB ± 0.05 dB 0-10 MHz	
		Gain: 0 dB ± 0.5 dB 0-150 MHz	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
10	**ADA**		

		Should have High quality audio distribution.	
		Should have configurable dual 2x4 or single 1x8 distribution amplifier.	
		Should have Left/right swapping capability	
		Gain setting for professional and consumer equipment.	
		DIP switch gain compensation 10kohms / 600 ohms load or better	
		Precision gain adjustment	
		Should have high common mode rejection on both inputs and outputs.	
		Inputs and outputs may be used with unbalanced equipment.	
		The input signal can be mixed to the other channel or vice versa	
		Modular/Standalone enclosure	
		Electrical Input:	
		Number of inputs: 2	
		Connector: DB15 balanced	
		Impedance: > 10k ohms	
		Maximum Input Level: +28dBu	
		Common mode rejection:>70dB	
		Electrical Output:	
		Number of outputs: 8	
		Connector: DB25 balanced	
		Frequency response: 50 Hz -20 kHz ±0.05dB	
		20 Hz -20 kHz ±0.1dB	
		20 Hz -80 kHz ±0.2dB	
		Crosstalk:-100 dB	
		THD+N: > 100dB ref to 20 Hz-20 kHz @ 20dBu	
		IMD: > 0.002%@18dBu	
		Impedance: 40 ohms nominal. Maximum 55 ohms	
		Maximum Output Level: +25 dBu	
		Output voltage balance ratio: >30dB	
		Output common mode rejection: >50dB	
		Switched gain tolerance: 0.1dB	
		Gain: -12 to +12 dB	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
11	**SDI to HDMI Converter For studio fold Back Display**		
		Embedded HD/SD/SDI audio should be supported in the HDMI output allowing a convenient single cable audio/video connection.	
		Full HDMI support including 10-bit video and 8 channels of embedded audio	

		Additional 2-Channel RCA jack audio output	
		Input formats : 525i, 625i or higher	
		HDMI: Standard Type A connector Video:8-bit RGB 4:4:4 or 10-bit YCbCr 4:2:2 Audio: 24-bit, with 2 or 8 embedded channels	
		HDMI cable	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
12	**Studio Cool Lights (LED Type)**		
		1600 total LED (CW 800 Pcs and WW 800 Pcs LED's)	
		Smooth flicker free dimming	
		extreme output- Minimum 960 Lux @5 M or higher	
		adjustable barn doors included	
		5 Pin and 3 Pin DMX in/out	
		IEC Power input	
		LED Menu Display on the rear of the Unit	
		Less than 180 Watts total power consumption at full output	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
13	**Hot Light Theatre Spot**		
		Color Temperature : 5500K/3000K or more	
		Rotating filter and hanger	
		Thermo Optical cooling technology, no noise	
		Beam Angle : 12-40 degree	
		Luminous efficiency: 35lm/W	
		Working life 50,000 Hrs or higher	
		Body temp : < 58 deg Cel	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
14	**46" LCD Monitors/T.V**		
		Visible screen size (diagonal): Minimum 46 inches or higher	
		Panel: LCD/LED	
		HDTV display capability: 1080i (Full HD), 576i	
		Display resolution: 1,920 (W) x 1,080 (H)	
		Other video inputs: USB, HDMI, Video composite, component video input, PC input. Analog tuner, PAL, Dvid output	
		Power supply: To operate at 230 V ±10%, 50 Hz AC.	
		Features:- Auto-off, Channel Labeling, Picture and Picture (PAP), Picture in Picture, Sleep Timer, Auto Program, Closed Caption	
		Speakers:- Dolby Digital Sound	

		BIS certification	
		Energy Star Compliance	
		All accessory items and cables are required for LCD connectivity with wall mounting Kit and TV stand with Kee Lite aluminum fittings and aluminium pipe..	
15	**DVD Recorder**		
		Disc Combo Deck	
		Burns DVDs without PC Connected	
		Records Internally or Direct-to-Disc	
		Capable of Recording from Live Signal	
		Should support Analog format	
		Connectivity: Composite In, HDMI, USB	
		Authors with Menus / Auto-Start / Repeat	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
16	**Character Generator with PC**		
		Import Image Objects	
		Text roll and crawl for graphics and animations	
		Live Edit Mode	
		Stand Alone Logo Display Function	
		HD/ SD, Titling and Graphics system for Live TV, Video and Web streaming	
		Live HD/SD SDI Overlay	
		Supports BMP, JPG, GIF, PCX, TIF and TGA image formats	
		Support for resolutions from 320x240 to 1080i HD	
		Quick and Simple GUI	
		Programmable Multipage Events with Transitions	
		Logo generator (approx. 20 pages or higher for selection)	
		Min 600 Layers or higher- Text, logos, and shapes can be placed on multiple layers, each independent of the others. Layers can be named.	
		Targa Sequence for logo animation GPI trigger by external GPI cable or by "Ctrl Key " or "Right Click on the mouse"	
		Approx 26 shapes per page or higher. Each shape can be set to a solid color, semi-transparent color, a color gradient, or a texture. The shapes can be edged, colored, sized, italicized, and rotated just like text characters.	
		Capable of Preview Facility	
		Digital Clock Timer	
		Video Card for Character Generator as per system hardware mentioned below:	

		Should support Analog and Digital video connections Including HD/SD-SDI/HDMI and SD/HD component, composite, S-video connections.	
		Analog balanced audio, 16 channel SDI audio, genlock, deck control, broadcast quality up, down and cross conversion, plus built in SD/HD internal keyer.	
		SDI Video Input 1 x 10-bit SD/HD/2K/4K. Supports 6 Gb/s 4:2:2 and 3 Gb/s 4:4:4	
		SDI Video Output 1 x 10-bit SD/HD/2K/4K. Supports 6 Gb/s 4:2:2 and 3 Gb/s 4:4:4	
		SDI Audio Input 16 Channels embedded in HD/2K/4K. 8 Channels embedded in SD.	
		SDI Audio Output 16 Channels embedded in HD/2K/4K. 8 Channels embedded in SD.	
		Sync Input Black burst in SD, 720p50, 720p59.94, 1080i50 and 1080i59.94 formats or Tri-Sync in any HD, 2K or 4K format.	
		Device Control compatible RS422 deck control ports. Serial ports TxRx direction reversible under software control.	
		Card Includes: SD Card, Breakout cable for analog and RS-422 control and HDMI Bracket	
		System configuration:	
		Intel Core i5, or higher, Microsoft Windows 7 with Licensed key 64bit OS, with min 21 inches or higher LCD/LED Monitor.	
		500GB 7200 RPM 3.5 HDD ,4GB DDR3-1600 ECC (2x2GB) RAM, USB Keyboard , USB Optical Mouse	
		16X SuperMulti DVDRW SATA 1st ODD, Factory Image Recovery , Nvidia GFX Card 1Gb	
		PCI Express 4 lane generation 2, compatible with 4, 8 and 16 lane PCIe	
		Rack mount version also available	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
17	**Microphone (Lavelier) Wireless**		

		Product type: Wireless Microphone Set with Transmitter & Receiver	
		Type: Electret condenser	
		Product type: Lavalier Microphone	
		Transmission/receiving frequencies: 1680	
		Frequency response: 20Hz to 20KHZ	
		S/N ratio : >110 db or more	
		Directivity: Unidirectional/cardioid	
		Nominal impedance: 680Ohm(s)	
		Phantom power requirements: +48V	
		Microphone input: XLR (3-pin, female)	
		Accessories required: Foam windscreen, attaching tie clip, Microphone case	
		Adjustable audio sensitivity, Battery status indicator, incl. batteries, IR frequency synchronization, Transmission power adjustable in 3 stages, 2 x Antennae	
		IR frequency synchronization, channel search function	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
18	**Microphone (Lavellier) Wired**		
		Product type: Lavalier Microphone	
		Type: Electret condenser	
		Frequency response: 20HZ – 20KHz	
		Dynamic Range: 80db or more	
		S/N ratio : 64 db or more	
		Directivity: Omni Directional/ Cardioids	
		Nominal impedance: 680Ohm(s)	
		Phantom power requirements: +48V	
		Microphone input: B type. Supplied with XLR connector in power supply unit	
		Cable length: More than 3 mtr.	
		Accessories required: Foam windscreen, attaching tie clip, Microphone case	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
19	**NAS based server systems (48 TB)**		
		NAS Should have Active Controller, scalable up to 120 disks, 48 Tb RAW, 6Gb/s SAS connectivity & should have option for redundant controller up gradation & should be of latest model.	
		The Storage system should have upgradable to two controllers for running in an active-active mode.	

		The architecture should allow modular upgrades of hardware and software.	
		The storage solution should support scale-out architecture to allow scaling up the performance and the capacity by adding more controllers or disks, as needed, to the storage system.	
		The storage shall offer unified architecture and hence shall be configured with FC, iSCSI, NFS and CIFS protocols for use with different applications and avoid any protocol related buying in future. Any hardware/software required for this functionality shall be supplied along with it in No Single Point Of Failure mode.	
		Minimum 4 x GbE ports, 1x host board slots (Upgradable Slots - 4 x 1GbE ports, 2 x 10GbE (SFP+ or RJ45) ports, 2 x 16Gb FC) ; 1 x Intel Processer i5 or higher, 8GB DDR3 (4GB x2) expandable and 2 x SAS 6G Exp. Or higher.	
		Automatic failover Redundancy components : power supplies, fans	
		Controller module : 4x1GbE ports ,8GB DDR3 (2x 4GB), and 1 x host board slot, Drive connectivity 1 x 6Gb/s SAS wide ports	
		Global, dedicated or enclosure hot-spare	
		RAID configuration : The system should support RAID with 0, 1,5/6 The RAID implementation on the storage will be such that it is able to protect against two drive failing in the same RAID Group simultaneously or at an overlapping time without affecting the performance of the system	
		Raid Support & Virtualization : Offered Storage Subsystem shall support Raid 0, 1, 1+0, 5 and Raid 6. Offered storage array shall have native virtualization support so that Raid 1. Raid 5, Raid 1+0, Raid 6 can be carved out from a logical space instead of dedicating separate physical disks for each application. Every supplied disk shall be able to participate into multiple and different raid sets simultaneously.	
		Online expansion by: Adding new drives JBOD 12 Expansion Support	
		Copying and replacing drives with drives of larger capacity	
		RAID migration, Various event notification methods including email, LAN broadcast, fax, SNMP traps, SMS, and Skype.	
		Configurable stripe size and write policy per system	

		Intelligent drive handling	
		NAS should be expendable	
		In degraded mode: skips irreparable blocks to continue rebuild	
		Intelligent multi-level drive spin-down	
		Should have Redundant Power supply with Hot Swappable	
		OS Support :Windows Server 2008, 2008 R2 (including Hyper-V) ,Red Hat Enterprise Linux, SUSE Linux Enterprise, Sun Solaris, Mac OS X, VMware, Citrix, IBM AIX,HP-UX	
		All the licenses on the storage system must be provided for an entire capacity supported by the system from day one.	
		Power Management: Network UPS with SNMP management	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
20	**Streaming PC (with A/V Card)**		
		Streaming Workstation Compatible with SD formats, including NTSC and PAL.	
		Intel Core i5(or higher), Microsoft Windows 8 with Licensed 64bit OS or latest with minimum 21 inches LCD/LED Monitor	
		500GB 7200 RPM 3.5 HDD ,4GB DDR3-1600 ECC (2x2GB) RAM, USB Keyboard , USB Optical Mouse	
		2USB 3.0; 6 USB 2.0; 2 PS/2; 1 VGA; 1 audio in; 1 audio out; 1 RJ-45; 1 headphone; 1 microphone; 2 Display Port	
		16X Super Multi DVDRW SATA 1st ODD, , Nvidia GFX Card 1Gb	
		Multi-core processor is recommended to run video application.	
		All standard ports and interfaces.	
		Capture/Streaming Card :	
		H.264 high definition video encoder, with video encoding from 480i to 1080p30	
		Supports VBR and CBR encoding	
		Built-in video down scalar : 1080p to 720p or 1080p to 360p	
		Input Video: one channel switchable input	
		Composite (BNCx1)	
		Y/C (BNCx2) Includes BNC to Mini DIN	
		Components (BNCx3)	
		Input Audio: Balanced Stereo (XLRx2) and Unbalanced stereo (RCAx2)	
		Output Audio: Unbalanced stereo Line (3.5mm)	
		Input/output connections :HDMI in, from HDMI sources without HDCP, S-Video and composite video in, with stereo	

		audio, HDMI output	
		Built-in logo inserter : Facility to add a transparent PNG file, with up to 120,000 pixels in any aspect ratio with up to 256 levels of transparency, to the video streams	
		Local record while streaming is must	
		Pre Processing: Closed caption extraction/rendering, Logo/Bitmap Overlay Scaling, Cropping, de-interlacing and inverse telecine, Loss of video automatic test pattern generation with text overlay option.	
		Should be bundled with the streaming software and internet protocols & multi screen delivery profiles.	
		Item includes with capture card are: 1.Low profile bracket 2.BNC to RCA Adaptor 3. Capture card breakout cable 4.Y/C (BNC) to S-Video Adaptor 5. Driver and documentation CD/Manual	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
21	**Post Production**		
	(Non Linear editing systems with graphic and editing software) and external DVD writer		
		Mac Based Non Linear Editing system with Graphics and Editing software for the specified platform:	
		27-inch (diagonal) LED-backlit display with IPS technology; 2560x1440 resolution with support for millions of colors	
		3.4GHz quad-core Intel Core i5 processor (Turbo Boost up to 3.8GHz) with 6MB L3 cache, 8GB (two 4GB) of 1600MHz DDR3 memory; four user-accessible SO-DIMM slots,	
		NVIDIA Ge Force GTX 775M graphics processor with 2GB of GDDR5 memory, 1TB (7200-rpm) hard drive, SDXC card slot, Four USB 3 ports (compatible with USB 2), Two Thunderbolt ports, Mini Display Port output with support for DVI, VGA and dual-link DVI, 10/100/1000BASE-T Gigabit Ethernet (RJ-45 connector)	
		Thunderbolt/USB Supported AV Capture Card/ convertor with HD/SD/SDI & Analog, capture and playback functionality.	
		Pro Headphone : Type: Closed ; Frequency response: 15 - 25000Hz ; Impedance: 60Ohm(s) ,Connection type: 6.3 mm TRS, 3.5 mm TRS ,Cable length: 1,2 - 4m, Soft ear pads, bag	
		For Editing and Graphic software : Offline GFX	

		Adobe/Like	
		Adobe creative cloud for teams: Complete suit for 5 years	
		Minimum 21 inches or higher LCD/LED TV:	
		Resolution of 1920x1080	
		Convertor for thunderbolt to SDI:	
		Dual Thunderbolt ports	
		Two HD/SD-SDI inputs and outputs	
		Single link SDI 4:2:2 support, single and dual-link SDI 4:4:4 support	
		HDMI input and output	
		Analog HD/SD component and composite output, 10-bit	
		Video Up, Down, and Cross conversion (hardware-based, 10-bit)	
		8-channel embedded SDI audio I/O	
		8-channel balanced analog audio output	
		Front panel LED VU meters	
		Headphone output w/level control	
		Reference In/LTC In	
		LTC output	
		RS-422	
		External DVD writer:	
		Drive Type : DVD	
		Enclosure Type: External	
		Interface: USB	
		Supported Disc Formats: DVD-RAM, DVD+R, DVD+R dual Layer, DVD+RW, DVD-R, DVD-R dual Layer, DVD-RW, DVD-ROM, DVD-Video, CD-R, CD-RW, CD-ROM, CD-Audio, Video-CD, Photo CD, CD-Text	
		Paired for power and portability	
		Additional 4 TB of RAID Storage over Thunderbolt connectivity for video editing system.	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
22	**Video Ingest System**		
		Mac Based system capable of recording and playback Live video in HD/SD-SDI format:.	
		27-inch (diagonal) LED-backlit display with IPS technology; 2560x1440 resolution with support for millions of colors	
		3.4GHz quad-core Intel Core i5 processor (Turbo Boost up to 3.8GHz) with 6MB L3 cache, 8GB (two 4GB) of 1600MHz DDR3 memory; four user-accessible SO-DIMM slots,	
		NVIDIA Ge Force GTX 775M graphics processor with 2GB	

		of GDDR5 memory, 1TB (7200-rpm) hard drive,	
		SDXC card slot	
		Four USB 3 ports (compatible with USB 2)	
		Mini Display Port output with support for DVI, VGA and dual-link DVI	
		10/100/1000BASE-T Gigabit Ethernet (RJ-45 connector)	
		Thunderbolt/USB Supported AV Capture Card/Convertor with HD/SD/SDI and Analog, capture and playback functionality.	
		Pro Headphone : Type: Closed ; Frequency response: 15 – 25000Hz ; Impedance: 60Ohm(s) ,Connection type: 6.3 mm TRS, 3.5 mm TRS ,Cable length: 1,2 – 4m, Soft ear pads, bag	
		Ingest software for SD/HD Ingest Facility:	
		Record one or more Video signals on mac	
		Manual or scheduled recordings: Schedule Daily/weekly/monthly recordings Each schedule item can have its own destination/file name	
		Timer to automatically stop recording a manual recording after a given time	
		Looped recording i.e. it records permanently on the same file and goes back to the beginning when it reaches the end of the file for Time Shifting play out.	
		Encode to multiple destinations using different codecs using easy presets.	
		H.264 support	
		Frame-accurate file switch for 24/7 recording	
		Compatible with most recording application.	
		Minimum 21 inches or higher LCD/LED TV:	
		Resolution of 1920x1080.	
		Convertor for thunderbolt to SDI:	
		Dual Thunderbolt ports	
		Two HD/SD-SDI inputs and outputs	
		Single link SDI 4:2:2 support, single and dual-link SDI 4:4:4 support	
		HDMI input and output	
		Analog HD/SD component and composite output, 10-bit	
		Video Up, Down, and Cross conversion (hardware-based, 10-bit)	
		8-channel embedded SDI audio I/O	
		8-channel balanced analog audio output	
		Front panel LED VU meters	

		Headphone output w/level control	
		Reference In/LTC In	
		LTC output	
		RS-422	
		Additional 4 TB of RAID Storage over Thunderbolt connectivity for video recording system.	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
23	**Video Graphic system**		
		Mac Based system for video graphics:	
		27-inch (diagonal) LED-backlit display with IPS technology; 2560x1440 resolution with support for millions of colours	
		3.4GHz quad-core Intel Core i5 processor (Turbo Boost up to 3.8GHz) with 6MB L3 cache, 8GB (two 4GB) of 1600MHz DDR3 memory; four user-accessible SO-DIMM slots,	
		NVIDIA Ge Force GTX 775M graphics processor with 2GB of GDDR5 memory, 1TB (7200-rpm) hard drive, SDXC card slot, Four USB 3 ports (compatible with USB 2), Two Thunderbolt ports, Mini Display Port output with support for DVI, VGA and dual-link DVI (adapters sold separately), 10/100/1000BASE-T Gigabit Ethernet (RJ-45 connector)	
		Thunderbolt/USB Supported AV Capture Card/Connector with HD/SD/SDI & Analog or better, capture and playback functionality.	
		Pro Headphone : Type: Closed ; Frequency response: 15 - 25000Hz ; Impedance: 60Ohm(s) ,Connection type: 6.3 mm TRS, 3.5 mm TRS ,Cable length: 1,2 - 4m, Soft ear pads, bag	
		Graphic software : Offline GFX Adobe/Like:	
		Adobe creative cloud for teams: Complete suit for 5 years	
		Minimum 21 inches or more LCD/LED TV:	
		Resolution of 1920x1080	
		Convertor for thunderbolt to SDI:	
		Dual Thunderbolt ports	
		Two HD/SD-SDI inputs and outputs	
		Single link SDI 4:2:2 support, single and dual-link SDI 4:4:4 support	
		HDMI input and output	
		Analog HD/SD component and composite output, 10-bit	
		Video Up, Down, and Cross conversion (hardware-based, 10-bit)	
		8-channel embedded SDI audio I/O	
		8-channel balanced analog audio output	
		Front panel LED VU meters	

		Headphone output w/level control	
		Reference In/LTC In	
		LTC output	
		RS-422	
		Additional 4 TB of RAID Storage over Thunderbolt connectivity for video graphic system	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
24	**Videoconferencing system Teacher End with Desktop PC and all required licenses and accessories**		
		Refer Clause 6.2.2.16 & 6.2.2.17	
25	**De-Embedder**		
		High quality audio/Video distribution (HD/SD/Analog).	
		Inputs and outputs may be used with unbalanced equipment.	
		The input signal can be un mixed to the other channel or vice versa	
		Connections	
		SDI Video Input	
		Switchable between SD, HD	
		SDI Video Output	
		Automatically matches the SD, HD and video input.	
		Analog Video	
		NTSC, PAL and S-Video from and component HD from SDI input.	
		Analog Audio	
		2 channels of professional balanced analog audio with standard 1/4 inch jack connections.	
		AES/EBU Digital Audio	
		2 channels of professional balanced digital with standard 1/4 inch jack connections.	
		SDI Redundant Input	
		Automatically switches over if main SDI input is lost.	
		Modular/Standalone enclosure:	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
26	**72" (6' x 4 ') wall mounted collapsible projection screen**		
		Pulled down screen of size 6ft x 4ft (wall type) with Matt white fabric and Insta Lock	
27	**Ultra Short Throw multimedia projector with active tool and accessories**		
		Projector Panel LCD: 1,024,000 pixels (1280 horizontal x 800 vertical)	
		Light source: 225W UHP or equivalent	
		Light output (brightness): 3000 lm or higher	

		Contrast ratio (Presentation mode): Minimum 3000:1 or Higher	
		Speaker: Minimum 10W mono or Higher	
		Ports: Computer input port COMPUTER IN1: D-sub 15 pin mini x1 COMPUTER IN2: D-sub 15 pin mini x1 Computer output port MONITOR OUT: D-sub 15 pin mini x1 Video input port S-VIDEO: mini DIN 4 pin x1 VIDEO: RCA x1 HDMI input port HDMI: HDMI connector x1 VGA, USB, LAN	
		Optional Parts ; Lamp: DT01511; Filter set: UX37191; Mounting accessory: HAS-AW100 (Bracket for ceiling mount), HAS-203L (Fixing adaptor for low ceilings), HAS-P100 (Fixing adaptor for high ceilings) USB wireless adapter	
		Operating temperature range : 0 ~ 40°C	
		Acceptable range of noise level is 28 to 37 dB	
		Active tool used to interact with projection screen	
		Accessories : Remote control with batteries, Power cord, Computer cable, Lens cover and strap, User's manual (Book and CD), Security label Application CD, Adapter cover	
		Interactive ultra short throw projectors should have feature that allow teachers / presenters to conveniently turn any standard/normal projection screen into an interactive learning and presentation area	
		Interactive pens that come with to write on the presentation area in virtual ink, manipulate onscreen elements and interactive features, and use them as mice for computer control.	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories	
28	**24 port switch**		
		24 Port Multi Layer Gigabit Switch for Networking with the required accessories & transceivers if required. Should support Jumbo frames.	
29	**42U Rack**		
		Fully assembled	
		Adjustable mounting depth	
		Integrated cable access holes	
		Numbered U positions	

		Removable, reversible fully ventilated doors with lock and Key	
		Simple baying installation	
		4 Fan mounted in rack	
		Wheels with locking facility	
		UBC Zone 4 stabilization provisions	
		2-PDU each with, 6-Socket	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
30	**Power Conditioning/ UPS**		
		Refer Clause 6.2.2.13	
31	**Studio Table (Teacher Table)/Technical Furniture**		
		The Teacher Table should have size of 8x2x2.5 ft. (Lx B x H) table should be little round in shape with sitting capacity of 5 persons.	
		The Teacher Table should be designed for modularity, ergonomics and high end aesthetics, durability and excellent finish work.	
		The front and rear device tracks of the furniture should allow lateral positioning of critical monitors.	
		The Teacher Table should have integral cable management, removable vented abs panels and movable & interchangeable rack turrets etc.	
		The Teacher Table should be made of high quality wooden material. The power supply distribution panels should also be integrated with these desks.	
32	**Computer chair**		
		Ergonomic height adjustable revolving Computer Chair with armrest. Five pronged Nylon base with 60 mm double castors. Seat and back made of polyurethane foam on 12 mm hot pressed ply duly upholstered with low pilling and permeable fabric. Gas lift tor height adjustment. Overall height of the chair – 95 to 105 cm.	
33	**PCR Equipment Table**		
		The PCR Table should have size of 5 x 2.5 x 2.5 ft (Lx B x H) with drawers and key board tray on slider channel with the provision of keeping CPU monitor and other equipments with Key and Lock facilities..	
		The PCR Table should be designed for modularity, ergonomics and high end aesthetics, durability and excellent finish work.	
		The PCR Table should have integral cable management,	

		removable vented abs panels and movable & interchangeable rack turrets etc.	
		The PCR Table should be made of high quality wooden material. The power supply distribution panels should also be integrated with these desks.	
34	**Computer Table/Workstation**		
		The computer table should having one drawers and key board tray on slider channel with the provision of keeping CPU monitor ups etc with Key and Lock facilities..	
		The computer table should be made of high quality material. The power supply distribution panels should also be integrated with these desks	
35	**Misc (Cable, Connectors, Installation Materials)**		
		All the supported cables and connectors with structured cabling, network switch (1G each port) for connectivity should be provided by the bidder to full fledge the solution at its optimal level	

6.2.2.2: ICT enabled Class Room

ICT enabled Class Room (5 Classrooms in each RIE)			
S/No	**Equipment/ Item**	**Equipment/Item Description**	**Compliance**
1	**72" (6' x 4 ') wall mounted collapsible projection screen**		
		Pulled down screen of size 6ft x 4ft (wall type) with Matt white fabric and Insta Lock	
2	**Ultra Short Throw multimedia projector with active tool and accessories**		
		Projector Panel LCD: 1,024,000 pixels (1280 horizontal x 800 vertical)	
		Light source: 225W UHP or equivalent	
		Light output (brightness): 3000 lm or higher	
		Contrast ratio (Presentation mode): 3000:1	
		Speaker: Minimum10W mono	
		Ports Computer input port COMPUTER IN1: D-sub 15 pin mini x1 COMPUTER IN2: D-sub 15 pin mini x1 Computer output port MONITOR OUT: D-sub 15 pin mini x1 Video input port S-VIDEO: mini DIN 4 pin x1 VIDEO: RCA x1 HDMI input port	

		HDMI: HDMI connector x1 VGA, USB, LAN	
		Optional Parts ; Lamp: DT01511; Filter set: UX37191; Mounting accessory: HAS-AW100 (Bracket for ceiling mount), HAS-203L (Fixing adaptor for low ceilings), HAS-P100 (Fixing adaptor for high ceilings) USB wireless adapter	
		Operating temperature range : 0 ~ 40°C	
		Acceptable range of noise level is 28 to 37 dB	
		Active tool used for projection screen	
		Accessory : Remote control with batteries, Power cord, Computer cable, Lens cover and strap, User's manual (Book and CD), Security label Application CD, Adapter cover	
		Interactive ultra short throw projectors should have feature that allow teachers / presenters to conveniently turn any standard/normal projection screen into an interactive learning and presentation area	
		Interactive pens that come with to write on the presentation area in virtual ink, manipulate onscreen elements and interactive features, and use them as mice for computer control.	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
3	**Amplifier speakers**		
		4" polypropylene-coated woofers	
		Low-frequency Driver: 4" diameter, magnetically shielded and curved cone with high-temperature voice coil	
		High-frequency Driver: 3/4" diameter, magnetically shielded silk dome tweeter	
		20-watt-per-channel amplifier with Class A/B architecture	
		Input Connectors: left and right RCA line input, left and right 1/4" TRS input and 1/8" aux input	
		1/8" headphone output	
		Input Impedance: 10 k Ohms unbalanced, 20 k Ohms balanced	
		Front-panel volume control, Rear-panel on/off control, Bass boost control	
		Frequency Response: 85Hz - 20kHz	
		Signal-to-Noise Ratio: > 90dB	
		Crossover Frequency: 2.7kHz	
		Power Requirements: 100-120V/~50/60Hz, 220-240V/ ~ 50 / 60Hz	

		Classroom Certified Technology	
		Assistive Listening Class	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
4	**PTZ Analog Color Camera (Wall Mounting)**		
		Image Sensor	
		Sensor 1/4 Exview CCD	
		Signal System - PAL	
		Illumination: Minimum 1.0Lux/F1.4 or higher	
		White Balance Auto/Manual	
		Gain Control Auto	
		Horizontal Resolution 480TVL or higher	
		S/N Ratio >50db	
		Lens	
		Minimum Focus f=4.1-73.8mm, F1.4-3.0 or higher	
		Iris: Auto/Manual	
		Zoom 16x Optical or higher	
		Video Output: VBS: 1.0Vpp at 75 Ohm, Composite-Video ,USB Output, BNC	
		Control Decoder: Built-in-Decoder	
		Communication Interface EIA/RS485,EIA/RS422, EIA/RS232（Bidirectional）	
		PTZ Control: PC Based DVRs, RS-485 PTZ controller, VISCA, PELCO-P	
		Baud Rate approx. 4800/9600bps or higher	
		Preset Position: 64 Preset Position	
		OSD Menu : To change parameters of camera or camera module from OSD Menu	
		Pan Speed 1-200 degree per second or higher	
		Tilt Speed 1-120 degree per second or higher	
		Pan Rotation Angle 360 degree continuously	
		Tilt Rotation Angle 125 degree or higher	
		Boundary Scan 0-359 degree (Programmable)	
		Remoter Control IR wireless remote controller P/T/Z	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
5	**46" Video monitors/TV**		
		Visible screen size (diagonal): Minimum 46 inches or higher	
		Panel: LCD/LED	
		HDTV display capability: 1080i (Full HD), 576i	
		Display resolution: 1,920 (W) x 1,080 (H)	
		Other video inputs: USB, HDMI, Video composite, component video input, PC input. Analog tuner, PAL, Dvid	

		output	
		Power supply: To operate at 230 V ±10%, 50 Hz AC.	
		Features:- Auto-off, Channel Labeling, Picture and Picture (PAP), Picture in Picture, Sleep Timer, Auto Program, Closed Caption	
		Speakers:- Surround Sound	
		BIS certification	
		Energy Star Compliance	
		All accessory items and cables are required for LCD/LED connectivity with wall mounting Kit and trolley stand.	
6	**Wireless Mic. (Handheld)**		
		Microphone:	
		RF Output Power: 15mw (max.)	
		Modulation Mode: FM (F3E)	
		Microphone Element: Dynamic, cardioid	
		Dynamic Range: 100dB	
		Spurious Emission: < 45dB	
		Maximum Deviation: ± 25kHz	
		Frequency Response: 50-15,000Hz	
		Antenna: Internal dipole	
		Current Consumption: < 60mA	
		Battery Life: 6-8 hrs. with 9V battery	
		Controls; Microphone On/Mute/Off Switch	
		Indication: Green LED for indicating microphone On	
		RECEIVER:	
		Frequency Stability**:** ± 0.005% Quartz Crystal Controlled	
		Receiving Method**:** Non-diversity	
		Audio Output: 0-55mV/1k	
		Signal To Noise Ratio: > 100dB	
		Distortion: < 0.5%	
		Frequency Response: 50-15,000Hz	
		Maximum Deviation: ± 25kHz	
		Antenna: Telescopic	
		Power Requirement: AC: 220-240V 50/60hz for AC adaptor	
		Controls: Power On/Off switch, Audio Output Volume Control	
		Indications: Red LED for Power ON, Green LED for RF Reception	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
7	**UPS**		
		Refer Clause 6.2.2.14	

8	**Video Conferencing software system for interactive class room**		
		Refer Clause 6.2.2.16 & 6.2.2.17	
9	**Misc (Cable, Connectors, Installation Materials)**		
		All the supported cables and connectors with structured cabling, network switch (1G each port) for connectivity should be provided by the bidder to full fledge the solution at its optimal level	

6.2.2.3 Conference Room

S/No	Equipment/ Item	Equipment/Item Description	Compliance
1	**Ultra short throw multimedia projector with active tools and accessories**		
		Projector Panel LCD: 1,024,000 pixels (1280 horizontal x 800 vertical)	
		Light source: 225W UHP or equivalent	
		Light output (brightness): 3000 lm or higher	
		Contrast ratio (Presentation mode): 3000:1	
		Speaker: Minimum10W mono	
		Ports Computer input port COMPUTER IN1: D-sub 15 pin mini x1 COMPUTER IN2: D-sub 15 pin mini x1 Computer output port MONITOR OUT: D-sub 15 pin mini x1 Video input port S-VIDEO: mini DIN 4 pin x1 VIDEO: RCA x1 HDMI input port HDMI: HDMI connector x1 VGA, USB, LAN	
		Optional Parts ; Lamp: DT01511; Filter set: UX37191; Mounting accessory: HAS-AW100 (Bracket for ceiling mount), HAS-203L (Fixing adaptor for low ceilings), HAS-P100 (Fixing adaptor for high ceilings) USB wireless adapter	
		Operating temperature range : 0 ~ 40°C	
		Acceptable range of noise level is 28 to 37 dB	
		Active tool used for projection screen	
		Accessory : Remote control with batteries, Power cord, Computer cable, Lens cover and strap, User's manual (Book and CD), Security label Application CD, Adapter cover	

		Interactive ultra short throw projectors should have feature that allow teachers / presenters to conveniently turn any standard/normal projection screen into an interactive learning and presentation area	
		Interactive pens that come with to write on the presentation area in virtual ink, manipulate onscreen elements and interactive features, and use them as mice for computer control.	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
2	**72" (6' x 4 ') wall mounted collapsible projection screen**		
		Pulled down screen of size 6ft x 4ft (wall type) with Matt white fabric and Insta Lock	
3	**PTZ AnalogColor Camera (Wall Mounting)**		
		Image Sensor	
		Sensor 1/4 Exview CCD	
		Signal System - PAL	
		Illumination: Minimum 1.0Lux/F1.4 or higher	
		White Balance Auto/Manual	
		Gain Control Auto	
		Horizontal Resolution 480TVL or higher	
		S/N Ratio >50db	
		Lens	
		Minimum Focus f=4.1-73.8mm, F1.4-3.0 or higher	
		Iris: Auto/Manual	
		Zoom 16x Optical or higher	
		Video Output: VBS: 1.0Vpp at 75 Ohm, Composite-Video ,USB Output, BNC	
		Control Decoder: Built-in-Decoder	
		Communication Interface EIA/RS485,EIA/RS422, EIA/RS232（Bidirectional）	
		PTZ Control: PC Based DVRs, RS-485 PTZ controller, VISCA, PELCO-P	
		Baud Rate approx. 4800/9600bps or higher	
		Preset Position: 64 Preset Position	
		OSD Menu : To change parameters of camera or camera module from OSD Menu	
		Pan Speed 1-200 degree per second or higher	
		Tilt Speed 1-120 degree per second or higher	
		Pan Rotation Angle 360 degree continuously	
		Tilt Rotation Angle 125 degree or higher	
		Boundary Scan 0-359 degree (Programmable)	
		Remoter Control IR wireless remote controller P/T/Z	
		All necessary cables and connectors to make the system	

		compatible should be provided with complete accessories.	
4	**Video Conferencing system**		
		Refer Clause 6.2.2.16 & 6.2.2.17	
5	**Audio Conferencing system (Lapel and desk microphones, speakers, etc)**		
		Dot MATRIX designed VFD Display	
		High fidelity 60W mono channel amplifier	
		Built-in monitor speaker with control volume	
		Tone Control (Bass/ Mid/ Treble)	
		Extra Microphone Jack with Volume	
		AUX input, AUX out, LINE input, LINE out	
		Connecting : 30 MIC unit	
		Broadcast audio quality	
		Expansion capability with Sub Amplifier not by Entire Matrix	
		Audio Conference System (Delegate) 10 Units : Gooseneck Microphone with LED ring, Built-in monitor speaker, Speaker level adjustable with rotary switch, Earphone jack output, LCD display (Reservation, Waiting order, Speaking Time limitation)	
		Secretary/Chairman 4 Unit : Gooseneck Microphone with LED ring , Built-in monitor speaker, Speaker level adjustable with rotary switch, Earphone jack output, LCD display	
		Chairman Mic. with Podium 1 : Gooseneck Microphone with LED ring , Built-in monitor speaker, Speaker level adjustable with rotary switch, Earphone jack output, LCD display	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
6	**Amplispeakers with Multimedia Base-Station**		
		4" polypropylene-coated woofers	
		Low-frequency Driver: 4" diameter, magnetically shielded and curved cone with high-temperature voice coil	
		High-frequency Driver: 3/4" diameter, magnetically shielded silk dome tweeter	
		20-watt-per-channel amplifier with Class A/B architecture	
		Input Connectors: left and right RCA line input, left and right 1/4" TRS input and 1/8" aux input	
		1/8" headphone output	
		Input Impedance: 10 k-Ohms unbalanced, 20 k-Ohms balanced	
		Front-panel volume control, Rear-panel on/off control, Bass boost control	
		Frequency Response: 85Hz - 20kHz	
		Signal-to-Noise Ratio: > 90dB	

		Crossover Frequency: 2.7kHz	
		Power Requirements: 100-120V/~50/60Hz, 220-240V/ ~ 50 / 60Hz	
		Classroom Certified Technology	
		Assistive Listening Class	
		"Room Connecting Module"	
		Speaker Output Four (4) amplifier channels w/ 2-pin euro connectors, each 4 Ohms @ 15 watts (60 watts total)	
		Microphone to Output Frequency Response 200 Hz to 15 kHz, +/- 2 dB, < 2.0% THD, >75 dB SNR	
		Input to Output Frequency Response 20 Hz to 20 kHz, +/- 2 dB, < 0.1% THD, >75 dB SNR	
		Incorporates assistive listening for ADA compliant classrooms	
		IR Mic connectivity"	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
7	**Audio Recorder**		
		Recording media : SD card (64MB to 2GB), SDHC card (4GB to 32GB)	
		File format : WAV,BWF,MP3	
		Number of channels : 4-channel (2 Stereo)	
		Playback speed control (VSA): 0.5 - 1.5 times (in 0.1 increments) * 44.1/48kHz only	
		Built-in microphone : Unidirectional, stereo (Possible to switch between A-B/X-Y positions)	
	EXT MIC/ LINE IN		
		Connector: XLR/TRS combo jack (1: GND, 2: HOT, 3: COLD)	
		Input impedance: 2.2k ohms(MIC) / 10k ohms(LINE)	
	PHONES/LINE OUT		
		Connector: 1/8"(3.5mm)stereo mini jack, Unbalanced	
	LINE OUT		
		Output impedance : 12ohms	
	PHONES		
		Maximum output level: 20mW+20mW(32ohms load)	
		Built-in speakers**:** 0.3W, Mono	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
8	**VGA Convertor**		
		3G/HD/SD Up/Down/Cross convert	

		Audio/HDMI/SDI/VGA input	
		3G/HD/SD SDI and HDMI output	
		Can be rack mounted using Rack solution	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
9	**Misc (Cable, Connectors, Installation Materials)**		
		All the supported cables and connectors with structured cabling, network switch (1G each port) for connectivity should be provided by the bidder to full fledge the solution at its optimal level	

Requirements in each facility in CIET, New Delhi

6.2.2.4: Studio 'A' Facilities

S/No	Equipment/ Item	Equipment/Item Description	Compliance
1	**Mac based Video Recording System**		
	Apple with Softron Media movie recorder	**Mac Based video recording system capable of record Live SD-SDI Video with embedded audio.**	
		27-inch (diagonal) LED-backlit display with IPS technology; 2560x1440 resolution with support for millions of colours	
		Intel Core i5 or higher processor (Turbo Boost up to 3.8GHz) with 6MB L3 cache, Minimum 4GB of 1600MHz DDR3 memory;	
		NVIDIA Ge Force GTX 775M graphics processor with minimum 1GB of GDDR5 memory, minimum 1TB (7200-rpm) hard drive,	
		SDXC card slot	
		Four USB 3 ports (compatible with USB 2)	
		Mini Display Port output with support for DVI, VGA and dual-link DVI	
		10/100/1000BASE-T Gigabit Ethernet (RJ-45 connector)	
		Thunderbolt/USB Supported AV Capture Card/ convertor with SD-SDI and Analog capture and playback functionality.	
		Pro Headphone : Type: Closed ; Frequency response: 15 - 25000Hz ; Impedance: 60Ohm(s) ,Connection type: 6.3 mm TRS, 3.5 mm TRS ,Cable length: 1,2 - 4m, Soft ear pads, bag	
		It should be compatible for networking with the Existing NAS storage in CIET(NCERT)	
		Ingest software for SD-SDI Ingest Facility	
		Record one or more Video signals on mac	

		Manual or scheduled recordings: Schedule Daily/weekly/monthly recordings Each schedule item can have its own destination/file name	
		Timer to automatically stop recording a manual recording after a given time	
		Looped recording i.e. it records permanently on the same file and goes back to the beginning when it reaches the end of the file for Time Shifting play out.	
		Encode to multiple destinations using different codecs using easy presets.	
		H.264 support	
		Frame-accurate file switch for 24/7 recording	
		Compatible with most Video recording application.	
		Minimum 21 inches or higher LCD/LED TV:	
		Resolution of 1920x1080	
		Convertor for SDI to thunderbolt:	
		Dual Thunderbolt ports	
		Two /SD-SDI inputs and outputs	
		Single link SDI 4:2:2 support, single and dual-link SDI 4:4:4 support	
		HDMI input and output	
		Analog SD component and composite output, 10-bit	
		Video Up, Down, and Cross conversion (hardware-based, 10-bit)	
		8-channel embedded SDI audio I/O	
		8-channel balanced analog audio output	
		Front panel LED VU meters	
		Headphone output w/level control	
		Reference In/LTC In	
		LTC output	
		RS-422	
		Additional 4 TB of RAID Storage over Thunderbolt connectivity for video recording system.	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
2	**Audio Delay Unit**		
		Easy to use audio delay box to synchronize video and audio	
		Traditional RCA (phono) connector	
		Professional XLR type connector	
		Built in a rugged metal housing for use in the field or studio	
		Balanced Input and Output	
		Adjustable/Variable delay time selection capability	

		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
3	**VGA Converter**		
		3G/HD/SD Up/Down/Cross convert	
		Audio/HDMI/SDI/VGA input	
		3G/HD/SD SDI and HDMI output	
		Can be rack mounted using Rack solution	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
4	**Character Generator with PC**		
		Import Image Objects	
		Text roll and crawl for graphics and animations	
		Live Edit Mode	
		Stand Alone Logo Display Function	
		HD/ SD, Titling and Graphics system for Live TV, Video and Web streaming	
		Live HD/SD SDI Overlay	
		Supports BMP, JPG, GIF, PCX, TIF and TGA image formats	
		Support for resolutions from 320x240 to 1080i HD	
		Quick and Simple GUI	
		Programmable Multipage Events with Transitions	
		Logo generator (approx. 20 pages or higher for selection)	
		Min 600 Layers or higher- Text, logos, and shapes can be placed on multiple layers, each independent of the others. Layers can be named.	
		Targa Sequence for logo animation GPI trigger by external GPI cable or by "Ctrl Key " or "Right Click on the mouse"	
		Approx. 26 shapes per page or higher. Each shape can be set to a solid color, semi-transparent color, a color gradient, or a texture. The shapes can be edged, colored, sized, italicized, and rotated just like text characters.	
		Capable of Preview Facility	
		Digital Clock Timer	
		Video Card for Character Generator as per system hardware mentioned below:	
		Should support Analog and Digital video connections Including HD/SD-SDI/HDMI and SD/HD component, composite, S-video connections.	
		Analog balanced audio, 16 channel SDI audio, genlock, deck control, broadcast quality up, down and cross conversion, plus built in SD/HD internal keyer.	

		SDI Video Input 1 x 10-bit SD/HD/2K/4K. Supports 6 Gb/s 4:2:2 and 3 Gb/s 4:4:4	
		SDI Video Output 1 x 10-bit SD/HD/2K/4K. Supports 6 Gb/s 4:2:2 and 3 Gb/s 4:4:4	
		SDI Audio Input 16 Channels embedded in HD/2K/4K. 8 Channels embedded in SD.	
		SDI Audio Output 16 Channels embedded in HD/2K/4K. 8 Channels embedded in SD.	
		Sync Input Black burst in SD, 720p50, 720p59.94, 1080i50 and 1080i59.94 formats or Tri-Sync in any HD, 2K or 4K format.	
		Device Control Compatible RS422 deck control ports. Serial ports Tx Rx direction reversible under software control.	
		Card Includes: SD Card, Breakout cable for analog and RS-422 control and HDMI Bracket	
		System configuration:	
		Intel Core i5, or higher, Microsoft Windows7 with Licensed key 64bit OS, with min 21 inches or higher LCD/LED Monitor.	
		500GB 7200 RPM 3.5 HDD ,4GB DDR3-1600 ECC (2x2GB) RAM, USB Keyboard , USB Optical Mouse	
		16X Super Multi DVDRW SATA 1st ODD, Factory Image Recovery , Nvidia GFX Card 1Gb	
		PCI Express 4 lane generation 2, compatible with 4, 8 and 16 lane PCIe	
		Rack mount version also available	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	

6.2.2.5: Server Facilities / Transmission

S/No	Equipment/ Item	Equipment/Item Description	Compliance
1	**NAS Storage System with Ingest Facility**		
		NAS Should have Active Controller, scalable up to 120 disks, 48 Tb RAW, 6Gb/s SAS connectivity & should have option	

		for redundant controller up gradation & should be of latest model.	
		The Storage system should have upgradable to two controllers running in an active-active mode.	
		The architecture should allow modular upgrades of hardware and software	
		The storage solution should support scale-out architecture to allow scaling up the performance and the capacity by adding more controllers or disks, as needed, to the storage system.	
		The storage shall offer unified architecture and hence shall be configured with FC, iSCSI, NFS and CIFS protocols for use with different applications and avoid any protocol related buying in future. Any hardware/software required for this functionality shall be supplied along with it in No Single Point Of Failure mode.	
		Minimum 4 x GbE ports, 1x host board slots (Upgradable Slots - 4 x 1GbE ports, 2 x 10GbE (SFP+ or RJ45) ports, 2 x 16Gb FC) ; 1 x Intel Processer i5 or higher, 8GB DDR3 (4GB x2) expandable and 2 x SAS 6G Exp. Or higher.	
		Automatic failover Redundancy components : power supplies, fans	
		Controller module : 4x1GbE ports ,8GB DDR3 (2x 4GB), and 1 x host board slot, Drive connectivity 1 x 6Gb/s SAS wide ports	
		Global, dedicated or enclosure hot-spare	
		RAID configuration : The system should support RAID with 0, 1,5/6 The RAID implementation on the storage will be such that it is able to protect against two drive failing in the same RAID Group simultaneously or at an overlapping time without affecting the performance of the system	
		Raid Support & Virtualization : Offered Storage Subsystem shall support Raid 0, 1, 1+0, 5 and Raid 6. Offered storage array shall have native virtualization support so that Raid 1. Raid 5, Raid 1+0, Raid 6 can be carved out from a logical space instead of dedicating separate physical disks for each application. Every supplied disk shall be able to participate into multiple and different raid sets simultaneously.	
		Online expansion by: Adding new drives JBOD 12 Expansion Support	
		Copying and replacing drives with drives of larger capacity	

		RAID migration, Various event notification methods including email, LAN broadcast, fax, SNMP traps, SMS, and Skype.	
		Configurable stripe size and write policy per system	
		Intelligent drive handling	
		NAS should be expendable	
		In degraded mode: skips irreparable blocks to continue rebuild	
		Intelligent multi-level drive spin-down	
		Should have Redundant Power supply with Hot Swappable	
		OS Support :Windows Server 2008, 2008 R2 (including Hyper-V) ,Red Hat Enterprise Linux, SUSE Linux Enterprise, Sun Solaris, Mac OS X, VMware, Citrix, IBM AIX,HP-UX	
		All the licenses on the storage system must be provided for an entire capacity supported by the system from day one.	
		Power Management: Network UPS with SNMP management	
		Ingest software for SD-SDI Ingest Facility	
		Record one or more Video signals on mac	
		Manual or scheduled recordings: Schedule Daily/weekly/monthly recordings Each schedule item can have its own destination/file name	
		Timer to automatically stop recording a manual recording after a given time	
		Looped recording i.e. it records permanently on the same file and goes back to the beginning when it reaches the end of the file for Time Shifting play out.	
		Encode to multiple destinations using different codecs using easy presets.	
		H.264 support	
		Frame-accurate file switch for 24/7 recording	
		Compatible with most Video recording application.	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
2	**Channel Branding**		
		All SD and SDI video modes are supported	
		Internal & external keying support	
		3 D perspective, Animation Support	
		CG control by TCP/IP Protocol	
		Multiple ticker support, dynamically change the assigned text and images	
		Non-Linear Interpolation, Roll Project	
		Unicode Support	

		RSS to Ticker Mode	
		It should have provision of Logo store and Incretion.	
		It should have preview display	
		It should have provision of scheduling	
		Hardware Compatibility: Motherboard : Gigabyte Z77X-UP4-TH or better, intel core i5-3470 or higher	
		Memory-4GB, 500GB HDD or higher	
		Minimum 1TB for storage	
		DVD writer, Heat Sink,	
		Nvidia GT650 minimum 1GB	
		Windows 7/8 with licensed key 64 bit Os	
		TFT Monitor minimum 21" or higher, Keyboard/ Mouse, with other accessories.	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
3	**Analog to SDI Converter and Embedder**		
		Video input:	
		1 X CVBS, BNC connector 75 Ohms	
		1 X S-Video	
		1 X YUV (3 x BNC connectors, 75 Ohms)	
		Audio input:	
		2 x Balance stereo audio, mini-XLR connector	
		2 x Unbalanced stereo audio, RCA jack	
		Output:	
		2 x BNC connector, 75 Ohms for SDI signal	
		SD component, composite or Y/C input	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
4	**Mac Based video Recording/Playback Systems**		
		Mac Based video recording system capable of record Live SD-SDI Video with embedded audio.	
		27-inch (diagonal) LED-backlit display with IPS technology; 2560x1440 resolution with support for millions of colours	
		Intel Core i5 or higher processor with minimum 4GB DDR3 memory; four user-accessible SO-DIMM slots,	
		NVIDIA Ge Force GTX 775M graphics processor with 2GB of GDDR5 memory, minimum 1TB (7200-rpm) hard drive,	
		SDXC card slot	
		Four USB 3 ports (compatible with USB 2)	
		Mini Display Port output with support for DVI, VGA and dual-link DVI	

		10/100/1000BASE-T Gigabit Ethernet (RJ-45 connector)	
		Thunderbolt/USB Supported AV Capture Card/ convertor with SD-SDI and Analog capture and playback functionality.	
		Pro Headphone : Type: Closed ; Frequency response: 15 - 25000Hz ; Impedance: 60Ohm(s) ,Connection type: 6.3 mm TRS, 3.5 mm TRS ,Cable length: 1,2 - 4m, Soft ear pads, bag	
		Ingest software for SD-SDI Ingest Facility	
		Record one or more Video signals on mac	
		Manual or scheduled recordings: Schedule Daily/weekly/monthly recordings Each schedule item can have its own destination/file name	
		Timer to automatically stop recording a manual recording after a given time	
		Looped recording i.e. it records permanently on the same file and goes back to the beginning when it reaches the end of the file for Time Shifting play out.	
		Encode to multiple destinations using different codecs using easy presets.	
		H.264 support	
		Frame-accurate file switch for 24/7 recording	
		Compatible with most recording application.	
		Minimum 21 inches or higher LCD/LED TV:	
		Resolution of 1920x1080.	
		Convertor for SDI to thunderbolt:	
		Dual Thunderbolt ports	
		Two SD-SDI inputs and outputs	
		Single link SDI 4:2:2 support, single and dual-link SDI 4:4:4 support	
		HDMI input and output	
		Analog SD component and composite output, 10-bit	
		Video Up, Down, and Cross conversion (hardware-based, 10-bit)	
		8-channel embedded SDI audio I/O	
		8-channel balanced analog audio output	
		Front panel LED VU meters	
		Headphone output w/level control	
		Reference In/LTC In	
		LTC output	
		RS-422	
		Additional 4 TB of RAID Storage over Thunderbolt connectivity for video recording system	
		All necessary cables and connectors to make the system	

		compatible should be provided with complete accessories.	

6.2.2.6: Studio 'B' Facilities

S/No	Equipment/ Item	Equipment/Item Description	Compliance
1	**Video Distribution Amplifiers**		
		Analogue video, PAL	
		Passive loop through	
		6x outputs with gain & Eq adjustments	
		Differential Looping Input	
		Moduler/ Standalone enclosure:	
		Electrical Input	
		Maximum input: 2 V p-p	
		Coupling: DC	
		Impedance: 75 ohm (switch able to high impedance)	
		Connector: BNC	
		Passive loop through is available with–C2 backplane	
		Electrical Output	
		Number of outputs: 6 or more	
		Connector: BNC	
		Impedance: 75 ohm	
		Signal polarity: 6 non inverting	
		Analog video	
		Frequency range: 0 to 200 MHz -3dB (useful for AES-3id)	
		Return loss: > 40dB @ 20MHz	
		Video S/N ratio: > 70 dB	
		Differential gain: < 0.1 %	
		Differential phase: < 0.1 º	
		Gain: 0 dB ± 0.05 dB 0-10 MHz	
		Gain: 0 dB ± 0.5 dB 0-150 MHz	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
2	**Audio Distribution Amplifiers**		
		High quality audio distribution.	
		Configurable dual 2x4 or single 1x8 distribution amplifier.	
		Left/right swapping capability	
		Gain setting for professional and consumer equipment.	
		DIP switch gain compensation 10kohms / 600 ohms load or better	
		Precision gain adjustment	
		High common mode rejection on both inputs and outputs.	
		Inputs and outputs may be used with unbalanced equipment.	
		The input signal can be mixed to the other channel or vice	

		versa	
		Moduler/Standalone enclosure	
		Electrical Input:	
		Number of inputs: 2	
		Connector: DB15 balanced	
		Impedance: > 10k ohms	
		Maximum Input Level: +28dBu	
		Common mode rejection:>70dB	
		Electrical Output:	
		Number of outputs: 8	
		Connector: DB25 balanced	
		Frequency response: 50 Hz -20 kHz ±0.05dB	
		20 Hz -20 kHz ±0.1dB	
		20 Hz -80 kHz ±0.2dB	
		Crosstalk:-100 dB	
		THD+N: > 100dB ref to 20 Hz-20 kHz @ 20dBu	
		IMD: > 0.002%@18dBu	
		Impedance: 40 ohms nominal. Maximum 55 ohms	
		Maximum Output Level: +25 dBu	
		Output voltage balance ratio: >30dB	
		Output common mode rejection: >50dB	
		Switched gain tolerance: 0.1dB	
		Gain: -12 to +12 dB	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
3	**Mac Based Recording/Playback Systems**		
		Mac Based video recording system capable of record Live SD-SDI Video with embedded audio.	
		27-inch (diagonal) LED-backlit display with IPS technology; 2560x1440 resolution with support for millions of colours	
		Intel Core i5 or higher processor minimum 4GB DDR3 memory; four user-accessible SO-DIMM slots,	
		NVIDIA GeForce GTX 775M graphics processor with 2GB of GDDR5 memory, minimum 1TB (7200-rpm) hard drive,	
		SDXC card slot	
		Four USB 3 ports (compatible with USB 2)	
		Mini Display Port output with support for DVI, VGA and dual-link DVI	
		10/100/1000BASE-T Gigabit Ethernet (RJ-45 connector)	
		Thunderbolt/USB Supported AV Capture Card/ convertor with SD-SDI and Analog capture and playback functionality.	
		Pro Headphone : Type: Closed ; Frequency response: 15 - 25000Hz ; Impedance: 60Ohm(s) ,Connection type: 6.3 mm	

		TRS, 3.5 mm TRS ,Cable length: 1,2 - 4m, Soft ear pads, bag	
		Ingest software for SD-SDI Ingest Facility	
		Record one or more Video signals on mac	
		Manual or scheduled recordings: Schedule Daily/weekly/monthly recordings Each schedule item can have its own destination/file name	
		Timer to automatically stop recording a manual recording after a given time	
		Looped recording i.e. it records permanently on the same file and goes back to the beginning when it reaches the end of the file for Time Shifting play out.	
		Encode to multiple destinations using different codecs using easy presets.	
		H.264 support	
		Frame-accurate file switch for 24/7 recording	
		Compatible with most editing application.	
		Minimum 21 inches or higher LCD/LED TV:	
		Resolution of 1920x1080.	
		Convertor for SDI to thunderbolt:	
		Dual Thunderbolt ports	
		Two SD-SDI inputs and outputs	
		Single link SDI 4:2:2 support, single and dual-link SDI 4:4:4 support	
		HDMI input and output	
		Analog, SD component and composite output, 10-bit	
		Video Up, Down, and Cross conversion (hardware-based, 10-bit)	
		8-channel embedded SDI audio I/O	
		8-channel balanced analog audio output	
		Front panel LED VU meters	
		Headphone output w/level control	
		Reference In/LTC In	
		LTC output	
		RS-422	
		Additional 4 TB of RAID Storage over Thunderbolt connectivity for video recording system	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
4	**Audio Delay Units**		
		Easy to use audio delay box to synchronize video and audio	
		Traditional RCA (phono) connector	

		Professional XLR type connector	
		Built in a rugged metal housing for use in the field or studio	
		Balanced Input and Output	
		Adjustable/Variable delay time selection capability	
		Low power consumption	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
5	**Audio Mixer (12 Channel)**		
		12+2 channel frame sizes	
		Built-in 24 bit Lexicon digital effects processor	
		32 FX settings	
		Tap Tempo and FX setting store function	
		1 FX send on each channel	
		1 configurable auxiliary bus	
		XLR-type and ¼" metal jack connector sockets	
		RCA phono stereo playback inputs and record outputs	
		3-band EQ with a swept mid on mono inputs	
		3-band EQ on stereo inputs	
		TRS insert sockets and inserts on all mono inputs	
		Ten-segment LED output metering	
		Professional +48V Phantom Power	
		Intuitive and comprehensive solo system	
		Headphone output	
		Easily rack mountable	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
6	**VGA Converter**		
		3G/HD/SD Up/Down/Cross convert	
		Audio/HDMI/SDI/VGA input	
		3G/HD/SD SDI and HDMI output	
		Should be rack mounted using Rack solution	
		All necessary cables and connectors with complete accessories to	
7	**DVD Recorder**		
		Disc Combo Deck	
		Burns DVDs without PC Connected	
		Records Internally or Direct-to-Disc	
		Capable of Recording from Live Signal	
		Should support Analog format	
		Connectivity: Composite In, HDMI, USB	
		All necessary cables and connectors to make the system	

		compatible should be provided with complete accessories.	
8	**Character Generator with PC**		
		Import Image Objects	
		Text roll and crawl for graphics and animations	
		Live Edit Mode	
		Stand Alone Logo Display Function	
		HD/ SD, Titling and Graphics system for Live TV, Video and Web streaming	
		Live HD/SD SDI Overlay	
		Supports BMP, JPG, GIF, PCX, TIF and TGA image formats	
		Support for resolutions from 320x240 to 1080i HD	
		Quick and Simple GUI	
		Programmable Multipage Events with Transitions	
		Logo generator (approx. 20 pages or higher for selection)	
		Min 600 Layers or higher- Text, logos, and shapes can be placed on multiple layers, each independent of the others. Layers can be named.	
		Targa Sequence for logo animation GPI trigger by external GPI cable or by "Ctrl Key " or "Right Click on the mouse"	
		Approx 26 shapes per page or higher. Each shape can be set to a solid color, semi-transparent color, a color gradient, or a texture. The shapes can be edged, colored, sized, italicized, and rotated just like text characters.	
		Capable of Preview Facility	
		Digital Clock Timer	
		Video Card for Character Generator as per system hardware mentioned below:	
		Should support Analog and Digital video connections Including HD/SD-SDI/HDMI and SD/HD component, composite, S-video connections.	
		Analog balanced audio, 16 channel SDI audio, genlock, deck control, broadcast quality up, down and cross conversion, plus built in SD/HD internal keyer.	
		SDI Video Input 1 x 10-bit SD/HD/2K/4K. Supports 6 Gb/s 4:2:2 and 3 Gb/s 4:4:4	
		SDI Video Output 1 x 10-bit SD/HD/2K/4K. Supports 6 Gb/s 4:2:2 and 3 Gb/s 4:4:4	
		SDI Audio Input 16 Channels embedded in HD/2K/4K. 8 Channels embedded in SD.	

		SDI Audio Output 16 Channels embedded in HD/2K/4K. 8 Channels embedded in SD.	
		Sync Input Blackburst in SD, 720p50, 720p59.94, 1080i50 and 1080i59.94 formats or Tri-Sync in any HD, 2K or 4K format.	
		Device Control compatible RS422 deck control ports. Serial ports TxRx direction reversible under software control.	
		Card Includes: SD Card, Breakout cable for analog and RS-422 control and HDMI Bracket	
		System configuration:	
		Intel Core i5, or higher, Microsoft Windows 7 with Licensed key 64bit OS, with min 21 inches or higher LCD/LED Monitor.	
		500GB 7200 RPM 3.5 HDD ,4GB DDR3-1600 ECC (2x2GB) RAM, USB Keyboard , USB Optical Mouse	
		16X Super Multi DVDRW SATA 1st ODD, Factory Image Recovery , Nvidia GFX Card 1Gb	
		PCI Express 4 lane generation 2, compatible with 4, 8 and 16 lane PCIe	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
9	**Wi-Fi enabled Teleprompter (Optional)**		

6.2.2.7: Graphic Unit Room No.012

S/No	Equipment/ Item	Equipment/Item Description	Compliance
1	**(Mac based graphics system with NAS (24 TB), video card/Convertor, video monitor and tablet 3 sets with suitable software)**		
		Mac Based system capable of running 2D/3D video graphics and animations	
		27-inch (diagonal) LED-backlit display with IPS technology; 2560x1440 resolution with support for millions of colours	
		3.4GHz quad-core Intel Core i5 processor (Turbo Boost up to 3.8GHz) with 6MB L3 cache, 8GB (two 4GB) of 1600MHz DDR3 memory; four user-accessible SO-DIMM slots,	
		NVIDIA GeForce GTX 775M graphics processor with 2GB of GDDR5 memory, 1TB (7200-rpm) hard drive, SDXC card slot, Four USB 3 ports (compatible with USB 2), Two Thunderbolt ports, Mini Display Port output with support for	

		DVI, VGA and dual-link DVI (adapters sold separately), 10/100/1000BASE-T Gigabit Ethernet (RJ-45 connector)	
		Thunderbolt/USB Supported AV Capture Card/Connector with HD/SD/SDI & Analog or better, capture and playback functionality.	
		Pro Headphone : Type: Closed ; Frequency response: 15 – 25000Hz ; Impedance: 60Ohm(s) ,Connection type: 6.3 mm TRS, 3.5 mm TRS ,Cable length: 1,2 – 4m, Soft ear pads, bag	
		Graphic software : Offline GFX Adobe/Like:	
		Adobe creative cloud for teams: Complete suit for 5 years	
		Compatible with most graphic application	
		Minimum 21 inches or higher LCD/LED TV:	
		Resolution of 1920x1080	
		Convertor for thunderbolt to SDI:	
		Dual Thunderbolt ports	
		Two SD-SDI and analog inputs and outputs	
		Single link SDI 4:2:2 support, single and dual-link SDI 4:4:4 support	
		HDMI input and output	
		Analog, SD component and composite output, 10-bit	
		Video Up, Down, and Cross conversion (hardware-based, 10-bit)	
		8-channel embedded SDI audio I/O	
		8-channel balanced analog audio output	
		Front panel LED VU meters	
		Headphone output w/level control	
		Reference In/LTC In	
		LTC output	
		RS-422	
		Additional 4 TB of RAID Storage over Thunderbolt connectivity for video Graphics system	
		NAS Storage(24TB) for GFX	
		NAS Should have Active Controller, scalable up to 60 disks, 24 Tb RAW, 6Gb/s SAS connectivity & should have option for redundant controller up gradation & should be of latest model.	
		The Storage system should have upgradable to two controllers running in an active-active mode.	
		The architecture should allow modular upgrades of hardware and software.	
		The storage solution should support scale-out architecture to allow scaling up the performance and the capacity by adding	

		more disks, as needed, to the storage system.	
		The storage shall offer unified architecture and hence shall be configured with FC, iSCSI, NFS and CIFS protocols for use with different applications and avoid any protocol related buying in future. Any hardware/software required for this functionality shall be supplied along with it in No Single Point Of Failure mode.	
		Minimum 4 x GbE ports, 1x host board slots (Upgradable Slots - 4 x 1GbE ports, 2 x 10GbE (SFP+ or RJ45) ports, 2 x 16Gb FC) ; 1 x Intel Processer i5 or higher, 8GB DDR3 (4GB x2) expandable and 2 x SAS 6G Exp. Or higher.	
		Automatic failover Redundancy components: power supplies, fans	
		Controller module : 4x1GbE ports ,8GB DDR3 (2x 4GB), and 1 x host board slot, Drive connectivity 1 x 6Gb/s SAS wide ports	
		Global, dedicated or enclosure hot-spare	
		RAID configuration : The system should support RAID with 0, 1,5/6 The RAID implementation on the storage will be such that it is able to protect against two drive failing in the same RAID Group simultaneously or at an overlapping time without affecting the performance of the system	
		Raid Support & Virtualization : Offered Storage Subsystem shall support Raid 0, 1, 1+0, 5 and Raid 6. Offered storage array shall have native virtualization support so that Raid 1. Raid 5, Raid 1+0, Raid 6 can be carved out from a logical space instead of dedicating separate physical disks for each application. Every supplied disk shall be able to participate into multiple and different raid sets simultaneously.	
		Online expansion by: Adding new drives JBOD 12 Expansion Support	
		Copying and replacing drives with drives of larger capacity	
		RAID migration, Various event notification methods including email, LAN broadcast, fax, SNMP traps, SMS, and Skype.	
		Configurable stripe size and write policy per system	
		Intelligent drive handling	
		NAS should be expendable	

		In degraded mode: skips irreparable blocks to continue rebuild	
		Intelligent multi-level drive spin-down	
		Should have Redundant Power supply with Hot Swappable	
		OS Support :Windows Server 2008, 2008 R2 (including Hyper-V) ,Red Hat Enterprise Linux, SUSE Linux Enterprise, Sun Solaris, Mac OS X, VMware, Citrix, IBM AIX,HP-UX	
		All the licenses on the storage system must be provided for an entire capacity supported by the system from day one.	
		Power Management: Network UPS with SNMP management	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
		Tablet 3 sets:	
		Should have minimum 9 inch screen TFT/ LCD	
		Connectivity: USB	
		RAM : 1GB minimum, Quad core processor minimum	
		Internal memory : 8 GB minimum and expandable to at least 32 GB	
		Communication: Wi-Fi, Bluetooth	
		SD card slot	
		1080p Video Support	
		Battery- 3500 mAH minimum	
		All necessary cable and connectors for connectivity	

6.2.2.8: EDUSAT facility Room No.136

S/No	Equipment/ Item	Equipment/Item Description	Compliance
1	**32" LCD Video Monitor/TV**		
		Visible screen size (diagonal): 32 inches	
		Panel: LCD/LED	
		Display Resolution : 1366x768 pixels or better	
		Standard Audio / Video I/O options	
		Video Signal: 480/60i, 480/60p, 576/50i, 576/50p, 720/60p, 720/50p, 1080/50i, 1080/60i, (HDMI / MHL: 720/24p, 720/30p, 1080/24p, 1080/30p), (HDMI / Component: 1080/60p , 1080/50p)	
		USB, HDMI ports	
		Speakers:- Surround Sound,	
		BIS certification	
		Energy Star Compliance	

		All accessory items and cables are required for LCD connectivity with wall mounting Kit and TV stand with Kee Lite aluminium fittings and aluminium pipe.	
2	**LCD Video Monitor(triplet)- BASIC ANALOG FORMAT ONLY**		
		3 High Resolution Minimum 6.5-inch 1.2 Mega Pixel wide screens	
		100% digital processing	
		High resolution scaling of all images: 1020x768 RGB	
		Wide viewing radius - 130° horizontal and 120° vertical	
		Minimum 500 candelas per square meter (cd/m2) luminance	
		500:1 ratio of contrast between black and white	
		Works with all SMPTE/ITU analog CCVS format	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
3	**DVD Recorder**		
		Disc Combo Deck	
		Burns DVDs without PC Connected	
		Records Internally or Direct-to-Disc	
		Capable of Recording from Live Signal	
		Should support Analog format	
		Connectivity: Composite In, HDMI, USB	
		Authors with Menus / Auto-Start / Repeat	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
4	**Lapel Microphone**		
		Product type: Wireless Microphone Set with Transmitter & Receiver	
		Type: Electret condenser	
		Product type: Lavalier Microphone	
		Transmission/receiving frequencies: 1680	
		Frequency response: 20Hz to 20KHZ	
		S/N ratio : >110 db or more	
		Directivity: Unidirectional/cardioid	
		Nominal impedance: 680Ohm(s)	
		Phantom power requirements: +48V	
		Microphone input: XLR (3-pin, female)	
		Accessories required: Foam windscreen, attaching tie clip, Microphone case	
		Adjustable audio sensitivity, Battery status indicator, incl. batteries, IR frequency synchronization, Transmission power adjustable in 3 stages, 2 x Antannae	
		IR frequency synchronization, channel search function	
		All necessary cables and connectors to make the system	

		compatible should be provided with complete accessories.	
5	**LED Light**		
		1600 total LED (CW 800 Pcs and WW 800 Pcs LED's)	
		Smooth flicker free dimming	
		extreme output-minimum 960 Lux @5 M	
		adjustable barn doors included	
		5 Pin and 3 Pin DMX in/out	
		IEC Power input	
		LED Menu Display on the rear of the Unit	
		Less than 180 Watts total power consumption at full output	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
6	**Hot Light Theatre Spot**		
		Color Temperature : 5500K/3000K or more	
		Rotating filter and hanger	
		Thermo Optical cooling technology, no noise	
		Beam Angle : 12-40 degree	
		Luminous efficiency: 35lm/W	
		Working life 50,000 Hrs or higher	
		Body temp : < 58 deg Cel	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
7	**Online UPS (2 KVA, 1 hr back-up)**		
	Refer Clause 6.2.2.15		
8	**Character Generator with PC**		
		Import Image Objects	
		Text roll and crawl for graphics and animations	
		Live Edit Mode	
		Stand Alone Logo Display Function	
		HD/ SD, Titling and Graphics system for Live TV, Video and Web streaming	
		Live HD/SD SDI Overlay	
		Supports BMP, JPG, GIF, PCX, TIF and TGA image formats	
		Support for resolutions from 320x240 to 1080i HD	
		Quick and Simple GUI	
		Programmable Multipage Events with Transitions	
		Logo generator (approx. 20 pages or higher for selection)	
		Min 600 Layers or higher- Text, logos, and shapes can be placed on multiple layers, each independent of the others. Layers can be named.	
		Targa Sequence for logo animation GPI trigger by external	

		GPI cable or by "Ctrl Key " or "Right Click on the mouse"	
		Approx 26 shapes per page or higher. Each shape can be set to a solid color, semi-transparent color, a color gradient, or a texture. The shapes can be edged, colored, sized, italicized, and rotated just like text characters.	
		Capable of Preview Facility	
		Digital Clock Timer	
		Video Card for Character Generator as per system hardware mentioned below:	
		Should support Analog and Digital video connections Including HD/SD-SDI/HDMI and SD/HD component, composite, S-video connections.	
		Analog balanced audio, 16 channel SDI audio, genlock, deck control, broadcast quality up, down and cross conversion, plus built in SD/HD internal keyer.	
		SDI Video Input 1 x 10-bit SD/HD/2K/4K. Supports 6 Gb/s 4:2:2 and 3 Gb/s 4:4:4	
		SDI Video Output 1 x 10-bit SD/HD/2K/4K. Supports 6 Gb/s 4:2:2 and 3 Gb/s 4:4:4	
		SDI Audio Input 16 Channels embedded in HD/2K/4K. 8 Channels embedded in SD.	
		SDI Audio Output 16 Channels embedded in HD/2K/4K. 8 Channels embedded in SD.	
		Sync Input Blackburst in SD, 720p50, 720p59.94, 1080i50 and 1080i59.94 formats or Tri-Sync in any HD, 2K or 4K format.	
		Device Control compatible RS422 deck control ports. Serial ports TxRx direction reversible under software control.	
		Card Includes: SD Card, Breakout cable for analog and RS-422 control and HDMI Bracket	
		System configuration:	
		Intel Core i5, or higher, Microsoft Windows 7 with Licensed key 64bit OS, with min 21 inches or higher LCD/LED Monitor.	
		500GB 7200 RPM 3.5 HDD ,4GB DDR3-1600 ECC (2x2GB) RAM, USB Keyboard , USB Optical Mouse	

		16X Super Multi DVDRW SATA 1st ODD, Factory Image Recovery , Nvidia GFX Card 1Gb	
		PCI Express 4 lane generation 2, compatible with 4, 8 and 16 lane PCIe	
		Rack mount version also available	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
9	**Ultra short throw projector with active tool and accessories**		
		Projector Panel LCD: 1,024,000 pixels (1280 horizontal x 800 vertical)	
		Light source: 225W UHP or equivalent	
		Light output (brightness): 3000 lm or higher	
		Contrast ratio (Presentation mode): 3000:1	
		Speaker: Minimum10W mono	
		Ports Computer input port COMPUTER IN1: D-sub 15 pin mini x1 COMPUTER IN2: D-sub 15 pin mini x1 Computer output port MONITOR OUT: D-sub 15 pin mini x1 Video input port S-VIDEO: mini DIN 4 pin x1 VIDEO: RCA x1 HDMI input port HDMI: HDMI connector x1 VGA, USB, LAN	
		Optional Parts ; Lamp: DT01511; Filter set: UX37191; Mounting accessory: HAS-AW100 (Bracket for ceiling mount), HAS-203L (Fixing adaptor for low ceilings), HAS-P100 (Fixing adaptor for high ceilings) USB wireless adapter	
		Operating temperature range : 0 ~ 40°C	
		Acceptable range of noise level is 28 to 37 dB	
		Active tool used for projection screen	
		Accessary : Remote control with batteries, Power cord, Computer cable, Lens cover and strap, User's manual (Book and CD), Security label Application CD, Adapter cover	
		Interactive ultra short throw projectors should have feature that allow teachers / presenters to conveniently turn any standard/normal projection screen into an interactive learning and presentation area	
		Interactive pens that come with to write on the presentation area in virtual ink, manipulate onscreen elements and interactive features, and use them as mice for computer	

		control.	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
10	**72" (6' x 4 ') wall mounted collapsible projection screen**		
		Pulled down screen of size 6ft x 4ft (wall type) with Matt white fabric and Insta Lock	
11	**Audio Mixer (6 Channel)**		
		Frame sizes 6+2	
		2 configurable auxiliary buses	
		XLR-type and ¼" metal jack connector sockets	
		RCA phono stereo playback inputs and record outputs	
		3-band EQ with a swept mid on mono inputs	
		2-band EQ on stereo inputs	
		TRS insert sockets and inserts on all mono inputs and mix output	
		Ten-segment LED output metering	
		Intuitive and comprehensive solo system	
		Headphone output	
		Easily rack mountable	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
12	**Misc (Cable, Connectors, Installation Materials)**		
		All the supported cables and connectors with structured cabling, network switch (1G each port) for connectivity should be provided by the bidder to full fledge the solution at its optimal level	

6.2.2.9: Sound Studio

S/No	Equipment/ Item	Equipment/Item Description	Compliance
1	**Mac based Computer Recording System with Professional Audio Card and Software**		
		Mac Based Audio Editing system capable of record and edit Live.	
		27-inch (diagonal) LED-backlit display with IPS technology; 2560x1440 resolution with support for millions of colours	
		3.4GHz quad-core Intel Core i5 processor (Turbo Boost up to 3.8GHz) with 6MB L3 cache, 8GB (two 4GB) of 1600MHz DDR3 memory; four user-accessible SO-DIMM slots,	
		NVIDIA GeForce GTX 775M graphics processor with 2GB of GDDR5 memory, 1TB (7200-rpm) hard drive,	
		SDXC card slot	
		Four USB 3 ports (compatible with USB 2)	

		Mini DisplayPort output with support for DVI, VGA and dual-link DVI	
		10/100/1000BASE-T Gigabit Ethernet (RJ-45 connector)	
		Thunderbolt/USB Supported Audio Capture Card/ convertor with digital and Analog capture and playback functionality.	
		Pro Headphone : Type: Closed ; Frequency response: 15 - 25000Hz ; Impedance: 60Ohm(s) ,Connection type: 6.3 mm TRS, 3.5 mm TRS ,Cable length: 1,2 - 4m, Soft ear pads, bag	
		Audio interface card with dual pre amp : 24-Bit 96/192KHz 4-In-4-Out USB Recording Interface	
		2x2 analog I/O full duplex recording and playback	
		Dual MIC/Instrument preamps with individual gain control and phantom power switch.	
		Audio editing software : Protools latest version or equivalent	
		Should be able to record high-resolution audio—up to 32-bit/192 kHz or better	
		Should have flexibility to record, edit, and mix music and capable to use multiple audio formats and bit depths in the same session	
		Should be capable to compose music using notation tools	
		Compatible with most audio editing application.	
		Additional 4 TB of RAID Storage over Thunderbolt connectivity.	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
2	**Up Gradation of Nuendo**		
		Software Up-Grade of Nuendo as per the Current Version	
3	**Portable Audio Recorder with external microphone**		
		Handheld 4-track Portable Recorder	
		Built-in condenser microphones, adjustable to XY or AB position	
		XLR / 1/4” mic/line input with phantom power	
		Record the built-in microphones with the XLR mic or line input for a four-track recording	
		Dual recording mode captures a safety track at a lower level to avoid distortion	
		Overdub mode allows recording along with a previous take	
		Peak reduction automatically sets the ideal recording level	
		15-hour battery life from three AA batteries	
		Up to 96kHz/24-bit WAV/BWF or MP3 recording resolution	
		2-second pre-recording buffer	

		Variable speed playback from 50-150% speed without changing the pitch	
		Adjustable limiter and low cut filter (40 / 80 / 120 Hz)	
		Built-in speaker and chromatic tuner	
		1/8” headphone/line output	
		Playback EQ and level align	
		Stereo Reverb effect	
		Tripod mounting hole	
		SD/SDHC card slot supports up to 32GB media (2GB card included)	
		Locking Neutrik Combi jacks	
		USB 2.0 jack and cable for transferring recordings to computer	
		Powered by three AA batteries, AC adapter (optional PS-P515U), external battery pack (optional BP-6AA), or USB bus power.	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	

6.2.2.10 List of essential equipment required for SEIT- Pune

S/No	Equipment/ Item	Equipment/Item Description	Compliance
1	**Video Switcher**		
		System Specifications Detail:	
		Video Formats HD mode: HD (1080/59.94i, 1080/50i, 720p/59.94p,720/50p)	
		SD mode: SD (480/59.94i, 576i/50i)	
		Image Effect Specifications Detail: Effect Transition (Fader, AUTO): MIX, WIPE ,DME WIPE(including P in P)	
		Inputs and Outputs Specifications Detail:	
		Video Input HD mode: HD-SDI x 4: BNC ,HDMI x3 DVI-I x 1: SXGA, WXGA, XGA, HDTV60(1080/60p), HDTV50(1080/50p)	
		Video Output HD mode: HD-SDI x 4 (PGM (act as AUX) x 2, AUX x 2) : BNC ,DVI-I x 1 (WUXGA, HDTV, SXGA, WXGA, XGA)	
		SD mode: SD-SDI x 4: BNC ,Composite x3: BNC DVI-I x 1: SXGA, WXGA, XGA	
		Reference Input HD mode: Analog black burst or Tri-level sync: BNC, with Loop through: BNC	

		SD mode: Analog black burst: BNC, with Loop through: BNC	
		GPI/TALLY Output D-sub 15-pin x 1D-sub General Specifications	
		Composite (AUX) x1: BNC , Reference Outputs HD mode:	
		Analog black burst or Tri-level sync: BNC	
		SD mode: SD-SDI x 4 (PGM (act as AUX) x 2, AUX x 2) : BNC , DVI-I x 1 (SXGA, WXGA, XGA)	
		CUT DSK Chroma key, Luminance key, Linear Key	
		Interface Specifications Detail:Remote RS-232 x 1: D-sub 9-pin (for switcher control from external devices)	
		All necessary cables and connectors including DVI – D to composite video Converter for connecting normal LCD TV and to make the system compatible should be provided with complete accessories.	
2	**Audio Mixer (12 channel)**		
		12+2 channel frame sizes	
		Built-in 24 bit Lexicon digital effects processor	
		32 FX settings	
		Tap Tempo and FX setting store function	
		1 FX send on each channel	
		1 configurable auxiliary bus	
		XLR-type and ¼” metal jack connector sockets	
		RCA phono stereo playback inputs and record outputs	
		3-band EQ with a swept mid on mono inputs	
		3-band EQ on stereo inputs	
		TRS insert sockets and inserts on all mono inputs	
		Ten-segment LED output metering	
		Professional +48V Phantom Power	
		Intuitive and comprehensive solo system	
		Headphone output	
		Easily rack mountable	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
3	**Studio Talk Back System**		
		19" 1U rack design	
		Supports 4-Way Intercom and scalable upto 8	
		Enables communication between the camera crew	
		Bi-colour tally light indicator	
		Selectable channel talk, broadcast to all or mute.	
		Additional external earphone and microphone interface	

		Full-Duplex design to eliminate the environmental noise	
		Supplied complete with Gooseneck Microphone and Light	
		Communication distance up to 200 meters	
		Provision of Anchor/Presenter In Ear set	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
4	**Video Recording/Playback system**		
		Mac Based video recording system capable of record Live SD-SDI Video with embedded audio.	
		27-inch (diagonal) LED-backlit display with IPS technology; 2560x1440 resolution with support for millions of colours	
		Intel Core i5 or higher processor minimum 4GB DDR3 memory; four user-accessible SO-DIMM slots,	
		NVIDIA GeForce GTX 775M graphics processor with 2GB of GDDR5 memory, minimum 1TB (7200-rpm) hard drive,	
		SDXC card slot	
		Four USB 3 ports (compatible with USB 2)	
		Mini DisplayPort output with support for DVI, VGA and dual-link DVI	
		10/100/1000BASE-T Gigabit Ethernet (RJ-45 connector)	
		Thunderbolt/USB Supported AV Capture Card/ convertor with SD-SDI and Analog capture and playback functionality.	
		Pro Headphone : Type: Closed ; Frequency response: 15 - 25000Hz ; Impedance: 60Ohm(s) ,Connection type: 6.3 mm TRS, 3.5 mm TRS ,Cable length: 1,2 - 4m, Soft ear pads, bag	
		Ingest software for SD-SDI Ingest Facility	
		Record one or more Video signals on mac	
		Manual or scheduled recordings: Schedule Daily/weekly/monthly recordings Each schedule item can have its own destination/file name	
		Timer to automatically stop recording a manual recording after a given time	
		Looped recording i.e. it records permanently on the same file and goes back to the beginning when it reaches the end of the file for Time Shifting play out.	
		Encode to multiple destinations using different codecs using easy presets.	
		H.264 support	
		Frame-accurate file switch for 24/7 recording	
		Compatible with most recording application.	
		Minimum 21 inches or higher LCD/LED TV:	
		Resolution of 1920x1080.	

		Convertor for SDI to thunderbolt:	
		Dual Thunderbolt ports	
		Two SD-SDI and analog inputs and outputs	
		Single link SDI 4:2:2 support, single and dual-link SDI 4:4:4 support	
		HDMI input and output	
		Analog, SD component and composite output, 10-bit	
		Video Up, Down, and Cross conversion (hardware-based, 10-bit)	
		8-channel embedded SDI audio I/O	
		8-channel balanced analog audio output	
		Front panel LED VU meters	
		Headphone output w/level control	
		Reference In/LTC In	
		LTC output	
		RS-422	
		Additional 4 TB of RAID Storage over Thunderbolt connectivity for video recording system	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
5	**ENG Camera System**		
		Semi-shoulder handheld camcorder with accessories for field & mics	
		Three 1/2-inch Full HD Exmor 3CMOS sensors	
		50 Mbps MPEG HD422 recording as MXF files (UDF mode only)	
		SD Recording and Playback (DVCAM) standard	
		Two Express Card SxS Memory Card Slots	
		Record up to 4 hours 50 Mbps MPEG HD422 in camcorder using two 64 GB SxS-1A memory cards	
		UDF (Professional Disc compatible) or FAT (XDCAM EX compatible) file format mode shooting to have similar high res files and workflows with existing Professional Disc and XDCAM EX camcorders	
		Viewfinder with 3.5-inch Color Quarter HD resolution 960(H) x 3(RGB) x540(V)	
		Slow & Quick motion (1fps to 60fps)	
		Focus Magnification for focus assistance	
		Slow Shutter Function	
		Shutter Angle Settings	
		Picture Cache Recording	
		USB interface for connecting camcorder as card reader	
		Additional Accessories:	

		Memory Card minimum 32GB or higher	
		Multi Card Reader: Should support SD, xD, mini SD, micro SD, MMC, SDHC, Compact Flash, Smart Media Card with Cable for connectivity	
		Spare Rechargeable Battery with each camera with battery charger	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
6	**Audio Monitoring System**		
		System Two-way active nearfield monitor	
		Frequency Response (+/-3dB) 35 Hz - 21 kHz	
		Bass Principle Bass reflex	
		Tuning Frequency 35 Hz	
		Tweeter 1" wide dispersion silk dome	
		Woofer 8.5" PPB cone with aluminum short circuiting ring and rigid aluminum basket	
		Magnetically shielded/compensated Shielded and Compensated	
		Cross over frequency 2.5 kHz	
		Cross over slope 24 dB/oct (LP and HP)	
		Input level for 85dB SPL @ 500-2000 Hz avg @ 1 m -15 dBu RMS @ 0 dB level setting	
		Input connectors Balanced XLR connector	
		Unbalanced RCA connectors	
		Power consumption Idle: 10W / Max: 180W	
		Amplifier power Tweeter: 60W / Woofer: 120W	
		Internal cabinet volume 18.0 liters	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
7	**46" LCD display**		
		Visible screen size (diagonal): Minimum 46 inches or higher	
		Panel: LCD/LED	
		HDTV display capability: 1080i (Full HD), 576i	
		Display resolution: 1,920 (W) x 1,080 (H)	
		Other video inputs: USB, HDMI, Video composite, component video input, PC input. Analog tuner, PAL, Dvid output	
		Power supply: To operate at 230 V ±10%, 50 Hz AC.	
		Features:- Auto-off, Channel Labeling, Picture and Picture (PAP), Picture in Picture, Sleep Timer, Auto Program, Closed Caption	
		Speakers:- Surround Sound	

		BIS certification	
		Energy Star Compliance	
		OEM Warranty in certificate	
		All accessory items and cables are required for LCD connectivity with wall mounting Kit and TV stand with Kee Lite aluminum fittings and aluminum pipe.	
8	**Video Monitors (TV)**		
		Minimum 21” LCD TV	
		Resolution of 1920x1080	
		Other video inputs: USB, HDMI, Video composite, component video input, PC input, Analog tuner, PAL, Dvid output	
		Power supply: To operate at 100V-240V, 50/60 Hz.	
		ED-Resolution: 720p	
		Speakers:- Surround Sound	
		BIS certification	
		Energy Star Compliance	
		OEM Warranty in certificate	
		All accessory items and cables are required for LCD connectivity with wall mounting Kit and TV stand with Kee Lite aluminium fittings and aluminium pipe.	
9	**Video Graphics System**		
		Mac Based video graphics system	
		27-inch (diagonal) LED-backlit display with IPS technology; 2560x1440 resolution with support for millions of colours	
		3.4GHz quad-core Intel Core i5 processor (Turbo Boost up to 3.8GHz) with 6MB L3 cache, 8GB (two 4GB) of 1600MHz DDR3 memory; four user-accessible SO-DIMM slots,	
		NVIDIA GeForce GTX 775M graphics processor with 2GB of GDDR5 memory, 1TB (7200-rpm) hard drive, SDXC card slot, Four USB 3 ports (compatible with USB 2), Two Thunderbolt ports, Mini DisplayPort output with support for DVI, VGA and dual-link DVI (adapters sold separately), 10/100/1000BASE-T Gigabit Ethernet (RJ-45 connector)	
		Thunderbolt/USB Supported AV Capture Card/Connector with HD/SD/SDI & Analog or better, capture and playback functionality.	
		Pro Headphone : Type: Closed ; Frequency response: 15 - 25000Hz ; Impedance: 60Ohm(s) ,Connection type: 6.3 mm TRS, 3.5 mm TRS ,Cable length: 1,2 - 4m, Soft ear pads, bag	
		Graphic software : Offline GFX Adobe/Like	
		Adobe creative cloud for teams: Complete suit for 5 years	
		Compatible with most graphic application	

		Minimum 21 inches or higher LCD/LED TV	
		Resolution of 1920x1080	
		Convertor for thunderbolt to SDI:	
		Dual Thunderbolt ports	
		Two SD-SDI and Analog inputs and outputs	
		Single link SDI 4:2:2 support, single and dual-link SDI 4:4:4 support	
		HDMI input and output	
		Analog, SD component and composite output, 10-bit	
		Video Up, Down, and Cross conversion (hardware-based, 10-bit)	
		8-channel embedded SDI audio I/O	
		8-channel balanced analog audio output	
		Front panel LED VU meters	
		Headphone output w/level control	
		Reference In/LTC In	
		LTC output	
		RS-422	
		Additional 4 TB of RAID Storage over Thunderbolt connectivity for video graphic system	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
10	**Character Generator with PC**		
		Import Image Objects	
		Text roll and crawl for graphics and animations	
		Live Edit Mode	
		Stand Alone Logo Display Function	
		HD/ SD, Titling and Graphics system for Live TV, Video and Web streaming	
		Live HD/SD SDI Overlay	
		Supports BMP, JPG, GIF, PCX, TIF and TGA image formats	
		Support for resolutions from 320x240 to 1080i HD	
		Quick and Simple GUI	
		Programmable Multipage Events with Transitions	
		Logo generator (approx. 20 pages or higher for selection)	
		Min 600 Layers or higher- Text, logos, and shapes can be placed on multiple layers, each independent of the others. Layers can be named.	
		Targa Sequence for logo animation GPI trigger by external GPI cable or by "Ctrl Key " or "Right Click on the mouse"	
		Approx 26 shapes per page or higher. Each shape can be set to a solid color, semi-transparent color, a color gradient, or a texture. The shapes can be edged, colored, sized, italicized,	

		and rotated just like text characters.	
		Capable of Preview Facility	
		Digital Clock Timer	
		Video Card for Character Generator as per system hardware mentioned below:	
		Should support Analog and Digital video connections Including HD/SD-SDI/HDMI and SD/HD component, composite, S-video connections.	
		Analog balanced audio, 16 channel SDI audio, genlock, deck control, broadcast quality up, down and cross conversion, plus built in SD/HD internal keyer.	
		SDI Video Input 1 x 10-bit SD/HD/2K/4K. Supports 6 Gb/s 4:2:2 and 3 Gb/s 4:4:4	
		SDI Video Output 1 x 10-bit SD/HD/2K/4K. Supports 6 Gb/s 4:2:2 and 3 Gb/s 4:4:4	
		SDI Audio Input 16 Channels embedded in HD/2K/4K. 8 Channels embedded in SD.	
		SDI Audio Output 16 Channels embedded in HD/2K/4K. 8 Channels embedded in SD.	
		Sync Input Blackburst in SD, 720p50, 720p59.94, 1080i50 and 1080i59.94 formats or Tri-Sync in any HD, 2K or 4K format.	
		Device Control compatible RS422 deck control ports. Serial ports TxRx direction reversible under software control.	
		Card Includes: SD Card, Breakout cable for analog and RS-422 control and HDMI Bracket	
		System configuration:	
		Intel Core i5, or higher, Microsoft Windows 7 with Licensed key 64bit OS, with min 21 inches or higher LCD/LED Monitor.	
		500GB 7200 RPM 3.5 HDD ,4GB DDR3-1600 ECC (2x2GB) RAM, USB Keyboard , USB Optical Mouse	
		16X SuperMulti DVDRW SATA 1st ODD, Factory Image Recovery , Nvidia GFX Card 1Gb	
		PCI Express 4 lane generation 2, compatible with 4, 8 and 16 lane PCIe	
		Rackmount version also available	

		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
11	**Misc (Cable, Connectors, Installation Materials)**		
		All the supported cables and connectors with structured cabling, network switch (1G each port) for connectivity should be provided by the bidder to full fledge the solution at its optimal level	

6.2.2.11 List of essential equipment required for SEIT- Hyderabad

S/No	Equipment/ Item	Equipment/Item Description	Compliance
1	**Video Switcher**		
		System Specifications Detail:	
		Video Formats HD mode: HD (1080/59.94i, 1080/50i, 720p/59.94p,720/50p)	
		SD mode: SD (480/59.94i, 576i/50i)	
		Image Effect Specifications Detail: Effect Transition (Fader, AUTO): MIX, WIPE ,DME WIPE(including P in P)	
		Inputs and Outputs Specifications Detail:	
		Video Input HD mode: HD-SDI x 4: BNC ,HDMI x3 DVI-I x 1: SXGA, WXGA, XGA, HDTV60(1080/60p), HDTV50(1080/50p)	
		Video Output HD mode: HD-SDI x 4 (PGM (act as AUX) x 2, AUX x 2) : BNC ,DVI-I x 1 (WUXGA, HDTV, SXGA, WXGA, XGA)	
		SD mode: SD-SDI x 4: BNC ,Composite x3: BNC DVI-I x 1: SXGA, WXGA, XGA	
		Reference Input HD mode: Analog black burst or Tri-level sync: BNC, with Loop through: BNC	
		SD mode: Analog black burst: BNC, with Loop through: BNC	
		GPI/TALLY Output D-sub 15-pin x 1D-sub General Specifications	
		Composite (AUX) x1: BNC , Reference Outputs HD mode:	
		Analog black burst or Tri-level sync: BNC	
		SD mode: SD-SDI x 4 (PGM (act as AUX) x 2, AUX x 2) : BNC , DVI-I x 1 (SXGA, WXGA, XGA)	
		CUT DSK Chroma key, Luminance key, Linear Key	
		Interface Specifications Detail:Remote RS-232 x 1: D-sub 9-pin (for switcher control from external devices)	

		All necessary cables and connectors including DVI – D to composite video Converter for connecting normal LCD TV and to make the system compatible should be provided with complete accessories.	
2	**Studio Talkback System**		
		19" 1U rack design	
		Supports 4-Way Intercom and scalable upto 8	
		Enables communication between the camera crew	
		Bi-colour tally light indicator	
		Selectable channel talk, broadcast to all or mute.	
		Additional external earphone and microphone interface	
		Full-Duplex design to eliminate the environmental noise	
		Supplied complete with Gooseneck Microphone and Light	
		Communication distance up to 200 meters	
		Provision of Anchor/Presenter In Ear set	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
3	**46” LCD Monitor/TV**		
		Visible screen size (diagonal): Minimum 46 inches or higher	
		Panel: LCD/LED	
		HDTV display capability: 1080i (Full HD), 576i	
		Display resolution: 1,920 (W) x 1,080 (H)	
		Other video inputs: USB, HDMI, Video composite, component video input, PC input. Analog tuner, PAL and Dvid Output	
		Power supply: To operate at 230 V ±10%, 50 Hz AC.	
		Features:- Auto-off, Channel Labeling, Picture and Picture (PAP), Picture in Picture, Sleep Timer, Auto Program, Closed Caption	
		Speakers:- Dolby Digital Sound	
		BIS certification	
		Energy Star Compliance	
		OEM Warranty in certificate	
		All accessory items and cables are required for LCD connectivity with wall mounting Kit and TV stand with Kee Lite aluminum fittings and aluminium pipe.	
4	**Video Monitors (TV)**		
		Minimum 21” LCD TV	
		Resolution of 1920x1080	
		Other video inputs: USB, HDMI, Video composite, component video input, PC input, Analog tuner, PAL, Dvid	

		output	
		Power supply: To operate at 100V-240V, 50/60 Hz.	
		ED-Resolution: 720p	
		Speakers:- Surround Sound	
		BIS certification	
		Energy Star Compliance	
		OEM Warranty in certificate	
		All accessory items and cables are required for LCD connectivity with wall mounting Kit and TV stand with Kee Lite aluminium fittings and aluminium pipe.	
5	**Video Recording System (Hard Drive Recording)**		
		Mac Based video recording system capable of record Live SD-SDI Video with embedded audio.	
		27-inch (diagonal) LED-backlit display with IPS technology; 2560x1440 resolution with support for millions of colours	
		3.4GHz quad-core Intel Core i5 processor (Turbo Boost up to 3.8GHz) with 6MB L3 cache, 8GB (two 4GB) of 1600MHz DDR3 memory; four user-accessible SO-DIMM slots,	
		NVIDIA GeForce GTX 775M graphics processor with 2GB of GDDR5 memory, minimum 1TB (7200-rpm) hard drive,	
		SDXC card slot	
		Four USB 3 ports (compatible with USB 2)	
		Two Thunderbolt ports	
		Mini DisplayPort output with support for DVI, VGA and dual-link DVI	
		10/100/1000BASE-T Gigabit Ethernet (RJ-45 connector)	
		Thunderbolt/USB Supported AV Capture Card/ convertor with SD-SDI and Analog capture and playback functionality.	
		Pro Headphone : Type: Closed ; Frequency response: 15 - 25000Hz ; Impedance: 60Ohm(s) ,Connection type: 6.3 mm TRS, 3.5 mm TRS ,Cable length: 1,2 - 4m, Soft ear pads, bag	
		Ingest software for SD-SDI Ingest Facility	
		Record one or more Video signals on mac	
		Manual or scheduled recordings: Schedule Daily/weekly/monthly recordings Each schedule item can have its own destination/file name	
		Timer to automatically stop recording a manual recording after a given time	
		Looped recording i.e. it records permanently on the same file and goes back to the beginning when it reaches the end of the file for Time Shifting play out.	
		Encode to multiple destinations using different codecs using easy presets.	

		H.264 support	
		Frame-accurate file switch for 24/7 recording	
		Compatible with most recording application.	
		Minimum 21 inches or higher LCD/LED TV	
		Resolution of 1920x1080.	
		Convertor for SDI to thunderbolt:	
		Dual Thunderbolt ports	
		Two SD-SDI and Analog inputs and outputs	
		Single link SDI 4:2:2 support, single and dual-link SDI 4:4:4 support	
		HDMI input and output	
		Analog, SD component and composite output, 10-bit	
		Video Up, Down, and Cross conversion (hardware-based, 10-bit)	
		8-channel embedded SDI audio I/O	
		8-channel balanced analog audio output	
		Front panel LED VU meters	
		Headphone output w/level control	
		Reference In/LTC In	
		LTC output	
		RS-422	
		Additional 4 TB of RAID Storage over Thunderbolt connectivity for video recording system	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
6	**ENG Camera Unit**		
		Semi-shoulder handheld camcorder with accessories for field & mics	
		Three 1/2-inch Full HD Exmor 3CMOS sensors	
		50 Mbps MPEG HD422 recording as MXF files (UDF mode only)	
		SD Recording and Playback (DVCAM) standard	
		Two Express Card SxS Memory Card Slots	
		Record up to 4 hours 50 Mbps MPEG HD422 in camcorder using two 64 GB SxS-1A memory cards (must be purchased separately)	
		UDF (Professional Disc compatible) or FAT (XDCAM EX compatible) file format mode shooting to have similar high res files and workflows with existing Professional Disc and XDCAM EX camcorders	
		Viewfinder with 3.5-inch Color Quarter HD resolution 960(H) x 3(RGB) x540(V)	

		Slow & Quick motion (1fps to 60fps)	
		Focus Magnification for focus assistance	
		Slow Shutter Function	
		Shutter Angle Settings	
		Picture Cache Recording	
		USB interface for connecting camcorder as card reader / Card Reader Module	
		Additional Accessories:	
		Memory Card minimum 32GB or higher	
		Multi Card Reader: Should support SD, xD, mini SD, micro SD, MMC, SDHC, Compact Flash, Smart Media Card with Cable for connectivity	
		Spare Rechargeable Battery with each camera with battery charger	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
7	**Editing NLE FCP with Video monitor**		
		Mac Based Non Linear Editing system capable of running final cut pro or other supported NLE software for the specified platform:	
		27-inch (diagonal) LED-backlit display with IPS technology; 2560x1440 resolution with support for millions of colors	
		3.4GHz quad-core Intel Core i5 processor (Turbo Boost up to 3.8GHz) with 6MB L3 cache, 8GB (two 4GB) of 1600MHz DDR3 memory; four user-accessible SO-DIMM slots,	
		NVIDIA Ge Force GTX 775M graphics processor with 2GB of GDDR5 memory, 1TB (7200-rpm) hard drive, SDXC card slot, Four USB 3 ports (compatible with USB 2), Two Thunderbolt ports, Mini Display Port output with support for DVI, VGA and dual-link DVI, 10/100/1000BASE-T Gigabit Ethernet (RJ-45 connector)	
		Thunderbolt/USB Supported AV Capture Card/ convertor with HD/SD/SDI & Analog, capture and playback functionality.	
		Pro Headphone : Type: Closed ; Frequency response: 15 - 25000Hz ; Impedance: 60Ohm(s) ,Connection type: 6.3 mm TRS, 3.5 mm TRS ,Cable length: 1,2 - 4m, Soft ear pads, bag	
		For Editing and Graphic software : Offline GFX Adobe/Like	
		Adobe creative cloud for teams: Complete suit for 5 years	
		Minimum 21 inches or higher LCD/LED TV	
		Resolution of 1920x1080	
		Convertor for thunderbolt to SDI:	

		Dual Thunderbolt ports	
		Two SD-SDI and Analog composite inputs and outputs	
		Single link SDI 4:2:2 support, single and dual-link SDI 4:4:4 support	
		HDMI input and output	
		Analog, /SD component and composite output, 10-bit	
		Video Up, Down, and Cross conversion (hardware-based, 10-bit)	
		8-channel embedded SDI audio I/O	
		8-channel balanced analog audio output	
		Front panel LED VU meters	
		Headphone output w/level control	
		Reference In/LTC In	
		LTC output	
		RS-422	
		Additional 4 TB of RAID Storage over Thunderbolt connectivity for video editing system	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
8	**LED Lights**		
		1600 total LED (CW 800 Pcs and WW 800 Pcs LED's)	
		Smooth flicker free dimming	
		extreme output-960 Lux @5 M	
		adjustable barn doors included	
		5 Pin and 3 Pin DMX in/out	
		IEC Power input	
		LED Menu Display on the rear of the Unit	
		160 Watts total power consumption at full output	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
9	**Hot Light Theatre Spot**		
		Color Temperature : 5500K/3000K or more	
		Rotating filter and hanger	
		Thermo Optical cooling technology, no noise	
		Beam Angle : 12-40 degree	
		Luminous efficiency: 35lm/W	
		Working life 50,000 Hrs or higher	
		Body temp : < 58 deg Cel	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
10	**Audio Mixer (16 Channel)**		
		Frequency Response: XLR input to ANY OUTPUT.+0/-10B,20Hz-20KHz	

		T.H.D. &NOISE: -All measurement at +10dbu output, 30dB gain.	
		XLR input to Direct output <0.007%1 KHz	
		XLR input to Mix output <0.008%1 KHz	
		MIC Input E.I.N.:22 KHz-22 KHz bandwidth, unweighted <-128dBu (150Ω source).	
		Mic Gain : Min..5dB or higher	
		Max ..60dB	
		Bus Noise : Mix output, input faders @-∞, Mix fader) 0dB	
		16 channels routed <-88dBu	
		Groupoutput, input faders @-∞, Mix fader) 0dB	
		16 channels routed <-88dBu	
		Aux output, input sends @-∞, Mix fader) 0dB	
		16 channels routed <-88dBu	
		Crosstalk @ 1 KHz: Input channel muting..>98dB	
		Input fader cutoff >98dB	
		Input pan pot isolation >82dB	
		Mix routing isolation >98dB	
		Group routing isolation..>98dB	
		Adjacent channel isolation> 100dB	
		Group- Mix crosstalk<-84dB	
		Aux send off <-94dB	
		CMRR: Mono input, measured atmax gain typically 80dB@ 1KHz	
		Input & output levels : Input channel mic input +15dBu max	
		Input channel line input +30dBu max	
		Stereo Input & insert returns +20dBu max	
		All outputs +20dBu max	
		Nominal operating level 0dBu max	
		Headphone power 2x250mW into 200Ω phones	
		Input & output impedances: -Mic input 2KΩ	
		Line inputs>10KΩ	
		Input channel insert return 5KΩ(with EQ in, otherwise worst case 1.8 KΩ	
		Mix, Group,Aux outputs 150Ω	
		Insert sends 75Ω	
		Recommended head impedance 50-600Ω or higher	
		High pass filter (Mono input) 100Hz , 18dB per octave.	
		EQ (Mono input) HF13KHz,+/-15dB,2nd order shelving	
		Hi-Mid.550Hz-13kHz,+/-15dB,Q-1	
		Lo-Mid80Hz-1.9kHz,+/-15dB,Q-1	
		LF 80Hz-15dB, 2nd order shelving	
		Metering 6 tri-colour 12–segment LED bar graphs	

		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
11	**Video Graphic System**		
		Mac Based video graphics system	
		27-inch (diagonal) LED-backlit display with IPS technology; 2560x1440 resolution with support for millions of colours	
		Core i5or higher processor, minimum 4GB DDR3 memory; four user-accessible SO-DIMM slots,	
		NVIDIA GeForce GTX 775M graphics processor with 2GB of GDDR5 memory, minimum 1TB (7200-rpm) hard drive, SDXC card slot, Four USB 3 ports (compatible with USB 2), Two Thunderbolt ports, Mini DisplayPort output with support for DVI, VGA and dual-link DVI (adapters sold separately), 10/100/1000BASE-T Gigabit Ethernet (RJ-45 connector)	
		Thunderbolt/USB Supported AV Capture Card/Connector with HD/SD/SDI & Analog or better, capture and playback functionality.	
		Pro Headphone : Type: Closed ; Frequency response: 15 - 25000Hz ; Impedance: 60Ohm(s) ,Connection type: 6.3 mm TRS, 3.5 mm TRS ,Cable length: 1,2 - 4m, Soft ear pads, bag	
		Graphic software : Offline GFX Adobe/Like	
		Adobe creative cloud for teams: Complete suit for 5 years	
		Minimum 21 inches or higher LCD/LED TV	
		Resolution of 1920x1080	
		Convertor for thunderbolt to SDI:	
		Dual Thunderbolt ports	
		Two SD-SDI and Analog inputs and outputs	
		Single link SDI 4:2:2 support, single and dual-link SDI 4:4:4 support	
		HDMI input and output	
		Analog, SD component and composite output, 10-bit	
		Video Up, Down, and Cross conversion (hardware-based, 10-bit)	
		8-channel embedded SDI audio I/O	
		8-channel balanced analog audio output	
		Front panel LED VU meters	
		Headphone output w/level control	
		Reference In/LTC In	
		LTC output	
		RS-422	
		Additional 4 TB of RAID Storage over Thunderbolt connectivity for video graphic system	

		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
12	**Character Generator with PC**		
		Import Image Objects	
		Text roll and crawl for graphics and animations	
		Live Edit Mode	
		Stand Alone Logo Display Function	
		HD/ SD, Titling and Graphics system for Live TV, Video and Web streaming	
		Live HD/SD SDI Overlay	
		Supports BMP, JPG, GIF, PCX, TIF and TGA image formats	
		Support for resolutions from 320x240 to 1080i HD	
		Quick and Simple GUI	
		Programmable Multipage Events with Transitions	
		Logo generator (approx. 20 pages or higher for selection)	
		Min 600 Layers or higher- Text, logos, and shapes can be placed on multiple layers, each independent of the others. Layers can be named.	
		Targa Sequence for logo animation GPI trigger by external GPI cable or by "Ctrl Key " or "Right Click on the mouse"	
		Approx 26 shapes per page or higher. Each shape can be set to a solid color, semi-transparent color, a color gradient, or a texture. The shapes can be edged, colored, sized, italicized, and rotated just like text characters.	
		Capable of Preview Facility	
		Digital Clock Timer	
		Video Card for Character Generator as per system hardware mentioned below:	
		Should support Analog and Digital video connections Including HD/SD-SDI/HDMI and SD/HD component, composite, S-video connections.	
		Analog balanced audio, 16 channel SDI audio, genlock, deck control, broadcast quality up, down and cross conversion, plus built in SD/HD internal keyer.	
		SDI Video Input 1 x 10-bit SD/HD/2K/4K. Supports 6 Gb/s 4:2:2 and 3 Gb/s 4:4:4	
		SDI Video Output 1 x 10-bit SD/HD/2K/4K. Supports 6 Gb/s 4:2:2 and 3 Gb/s 4:4:4	
		SDI Audio Input	

		16 Channels embedded in HD/2K/4K. 8 Channels embedded in SD.	
		SDI Audio Output 16 Channels embedded in HD/2K/4K. 8 Channels embedded in SD.	
		Sync Input Blackburst in SD, 720p50, 720p59.94, 1080i50 and 1080i59.94 formats or Tri-Sync in any HD, 2K or 4K format.	
		Device Control Compatible RS422 deck control ports. Serial ports Tx Rx direction reversible under software control.	
		Card Includes: SD Card, Breakout cable for analog and RS-422 control and HDMI Bracket	
		System configuration:	
		Intel Core i5, or higher, Microsoft Windows 7 with Licensed key 64bit OS, with min 21 inches or higher LCD/LED Monitor.	
		500GB 7200 RPM 3.5 HDD ,4GB DDR3-1600 ECC (2x2GB) RAM, USB Keyboard , USB Optical Mouse	
		16X Super Multi DVDRW SATA 1st ODD, Factory Image Recovery , Nvidia GFX Card 1Gb	
		PCI Express 4 lane generation 2, compatible with 4, 8 and 16 lane PCIe	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
13	**UPS (2 KVA with 1 hr. backup)**		
		Refer Clauses 6.2.2.15	
14	**Misc (Cable, Connector, Installation Material) etc**		
		All the supported cables and connectors with structured cabling, network switch (1G each port) for connectivity should be provided by the bidder to full fledge the solution at its optimal level	

6.2.2.12 List of essential equipment required for SEIT- Ahmadabad

S/No	Equipment/ Item	Equipment/Item Description	Compliance
1	**Editing NLE FCP with Video Monitor**		
		Mac Based Non Linear Editing system capable of running final cut pro or other supported NLE software for the specified platform:	

		27-inch (diagonal) LED-backlit display with IPS technology; 2560x1440 resolution with support for millions of colors	
		3.4GHz quad-core Intel Core i5 processor (Turbo Boost up to 3.8GHz) with 6MB L3 cache, 8GB (two 4GB) of 1600MHz DDR3 memory; four user-accessible SO-DIMM slots,	
		NVIDIA Ge Force GTX 775M graphics processor with 2GB of GDDR5 memory, 1TB (7200-rpm) hard drive, SDXC card slot, Four USB 3 ports (compatible with USB 2), Two Thunderbolt ports, Mini DisplayPort output with support for DVI, VGA and dual-link DVI, 10/100/1000BASE-T Gigabit Ethernet (RJ-45 connector)	
		Thunderbolt/USB Supported AV Capture Card/ convertor with HD/SD/SDI & Analog, capture and playback functionality.	
		Pro Headphone : Type: Closed ; Frequency response: 15 - 25000Hz ; Impedance: 60Ohm(s) ,Connection type: 6.3 mm TRS, 3.5 mm TRS ,Cable length: 1,2 - 4m, Soft ear pads, bag	
		For Editing and Graphic software : Offline GFX Adobe/Like	
		Adobe creative cloud for teams: Complete suit for 5 years	
		Minimum 21 inches or higher LCD/LED TV	
		Resolution of 1920x1080	
		Convertor for thunderbolt to SDI:	
		Dual Thunderbolt ports	
		Two SD-SDI and Analog inputs and outputs	
		Single link SDI 4:2:2 support, single and dual-link SDI 4:4:4 support	
		HDMI input and output	
		Analog, SD component and composite output, 10-bit	
		Video Up, Down, and Cross conversion (hardware-based, 10-bit)	
		8-channel embedded SDI audio I/O	
		8-channel balanced analog audio output	
		Front panel LED VU meters	
		Headphone output w/level control	
		Reference In/LTC In	
		LTC output	
		RS-422	

		Additional 4 TB of RAID Storage over Thunderbolt connectivity for video editing system	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
2	**Character Generator with PC**		
		Import Image Objects	
		Text roll and crawl for graphics and animations	
		Live Edit Mode	
		Stand Alone Logo Display Function	
		HD/ SD, Titling and Graphics system for Live TV, Video and Web streaming	
		Live HD/SD SDI Overlay	
		Supports BMP, JPG, GIF, PCX, TIF and TGA image formats	
		Support for resolutions from 320x240 to 1080i HD	
		Quick and Simple GUI	
		Programmable Multipage Events with Transitions	
		Logo generator (approx. 20 pages or higher for selection)	
		Min 600 Layers or higher- Text, logos, and shapes can be placed on multiple layers, each independent of the others. Layers can be named.	
		Targa Sequence for logo animation GPI trigger by external GPI cable or by "Ctrl Key " or "Right Click on the mouse"	
		Approx 26 shapes per page or higher. Each shape can be set to a solid color, semi-transparent color, a color gradient, or a texture. The shapes can be edged, colored, sized, italicized, and rotated just like text characters.	
		Capable of Preview Facility	
		Digital Clock Timer	
		Video Card for Character Generator as per system hardware mentioned below:	
		Should support Analog and Digital video connections Including HD/SD-SDI/HDMI and SD/HD component, composite, S-video connections.	
		Analog balanced audio, 16 channel SDI audio, genlock, deck control, broadcast quality up, down and cross conversion, plus built in SD/HD internal keyer.	
		SDI Video Input 1 x 10-bit SD/HD/2K/4K. Supports 6 Gb/s 4:2:2 and 3 Gb/s 4:4:4	
		SDI Video Output 1 x 10-bit SD/HD/2K/4K. Supports 6 Gb/s 4:2:2 and 3 Gb/s	

		4:4:4	
		SDI Audio Input 16 Channels embedded in HD/2K/4K. 8 Channels embedded in SD.	
		SDI Audio Output 16 Channels embedded in HD/2K/4K. 8 Channels embedded in SD.	
		Sync Input Blackburst in SD, 720p50, 720p59.94, 1080i50 and 1080i59.94 formats or Tri-Sync in any HD, 2K or 4K format.	
		Device Control compatible RS422 deck control ports. Serial ports TxRx direction reversible under software control.	
		Card Includes: SD Card, Breakout cable for analog and RS-422 control and HDMI Bracket	
		System configuration:	
		Intel Core i5, or higher, Microsoft Windows 7 with Licensed key 64bit OS, with min 21 inches or higher LCD/LED Monitor.	
		500GB 7200 RPM 3.5 HDD ,4GB DDR3-1600 ECC (2x2GB) RAM, USB Keyboard , USB Optical Mouse	
		16X Super Multi DVDRW SATA 1st ODD, Factory Image Recovery , Nvidia GFX Card 1Gb	
		PCI Express 4 lane generation 2, compatible with 4, 8 and 16 lane PCIe	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	
3	**UPS (2 KVA with 1 hr. backup)**		
		Refer Clause 6.2.2.15	

6.2.2.13 : 4 KVA online UPS with 1Hour Battery backup (For RIEs):

S. No.	Description	Specification	Compliance
	Technology/Design	Advance fully Microprocessor with PWM Technology with IGBTs. Double online conversion	
	Input Source available at site	Mains as supplied by local authorities or self Generated Electricity through DG Set	
	Input (Voltage)	160 V to 270 V Single phase	
	Input power factor	Minimum 0.80	
	Input Frequency Range	45-54HZ	

	Required Output System		
	Output (Voltage)	230V ± 5 %(both for load and supply variations)(Base Voltage adjustable)	
	Voltage Regulation	± 1%	
	Output power factor	Better than 95%	
	Frequency	50 Hz ± 0.1% (Constant frequency Output)	
	Output Wave form & Harmonic Distortion (TDH)	Pure Sine Wave form with TDH less than 3% (linear load), <4% (non linear load)	
	Active Power Factor Correction	In built design is required in input as well as output of UPS.	
	Isolation Transformer	Inbuilt double coil wounded Type.	
	Transient response	Less than 40 MS for 0 to 100% step load change.	
	Inverter efficiency	Greater than 90%	
	Crest Factor	3:1	
	Inverter technology	Switch mode (PWM with IGBT SWITCHES)	
	UPS type	On line (to act as power conditioner as well as Backup) with Auto start Facility	
	LED	1. Backup available (Time for which backup available say next 10 Min. 2. Battery low audio alarm. 3. Output OK indicator. 4. Input/ Output voltage meter. 5. Load Utilization Indicator. 6. UPS on Mains/Battery. 7. Frequency	
	Protection	MCB, Fast acting Fuse, Electronic Overvoltage, under voltage, short circuit. Battery under voltage protection	
	Remote Monitoring	SNMP enabled with all necessary cards and software	
	Operational / Functional Environment at Site.	40ċ ±5 %	

6.2.2.14: 2 KVA online UPS with 30 Min. Battery backup (All Class rooms):

S. No.	Description	Specification	Compliance
	Technology/Design	Advance fully Microprocessor with PWM Technology with IGBTs. Double online conversion	
	Input Source available at site	Mains as supplied by local authorities or self Generated Electricity through DG Set	

	Input (Voltage)	160 V to 270 V Single phase	
	Input power factor	Minimum 0.80	
	Input Frequency Range	45-54HZ	
	Required Output System		
	Output (Voltage)	230V ± 5 %(both for load and supply variations)(Base Voltage adjustable)	
	Voltage Regulation	± 1%	
	Output power factor	Better than 95%	
	Frequency	50 Hz ± 0.1% (Constant frequency Output)	
	Output Wave form & Harmonic Distortion (TDH)	Pure Sine Wave form with TDH less than 3% (linear load), <4% (non linear load)	
	Active Power Factor Correction	In built design is required in input as well as output of UPS.	
	Isolation Transformer	Inbuilt double coil wounded Type.	
	Transient response	Less than 40 MS for 0 to 100% step load change.	
	Inverter efficiency	Greater than 90%	
	Crest Factor	3:1	
	Inverter technology	Switch mode (PWM with IGBT SWITCHES)	
	UPS type	On line (to act as power conditioner as well as Backup) with Auto start Facility	
	LED	1. Backup available (Time for which backup available say next 10 Min. 2. Battery low audio alarm. 3. Output OK indicator. 4. Input/ Output voltage meter. 5. Load Utilization Indicator. 6. UPS on Mains/Battery. 7. Frequency	
	Protection	MCB, Fast acting Fuse, Electronic Overvoltage, under voltage, short circuit. Battery under voltage protection	
	Remote Monitoring	SNMP enabled with all necessary cards and software	
	Operational / Functional Environment at Site.	40ċ ±5 %	

6.2.2.15: 2 KVA online UPS with 1hrs Battery backup (CIET & SIET):

S. No.	Description	Specification	Compliance

	Technology/Design	Advance fully Microprocessor with PWM Technology with IGBTs. Double online conversion	
	Input Source available at site	Mains as supplied by local authorities or self Generated Electricity through DG Set	
	Input (Voltage)	160 V to 270 V Single phase	
	Input power factor	Minimum 0.80	
	Input Frequency Range	45-54HZ	
	Required Output System		
	Output (Voltage)	230V ± 5 %(both for load and supply variations)(Base Voltage adjustable)	
	Voltage Regulation	± 1%	
	Output power factor	Better than 95%	
	Frequency	50 Hz ± 0.1% (Constant frequency Output)	
	Output Wave form & Harmonic Distortion (TDH)	Pure Sine Wave form with TDH less than 3% (linear load), <4% (non linear load)	
	Active Power Factor Correction	In built design is required in input as well as output of UPS.	
	Isolation Transformer	Inbuilt double coil wounded Type.	
	Transient response	Less than 40 MS for 0 to 100% step load change.	
	Inverter efficiency	Greater than 90%	
	Crest Factor	3:1	
	Inverter technology	Switch mode (PWM with IGBT SWITCHES)	
	UPS type	On line (to act as power conditioner as well as Backup) with Auto start Facility	
	LED	1. Backup available (Time for which backup available say next 10 Min. 2. Battery low audio alarm. 3. Output OK indicator. 4. Input/ Output voltage meter. 5. Load Utilization Indicator. 6. UPS on Mains/Battery. 7. Frequency	
	Protection	MCB, Fast acting Fuse, Electronic Overvoltage, under voltage, short circuit. Battery under voltage protection	
	Remote Monitoring	SNMP enabled with all necessary cards and software	
	Operational / Functional Environment at Site.	30ċ ±5 %	

Battery back up for UPS:

a) The Batteries should be of SMF type designed. Battery must be installed in two strings for the above-specified power back for the equipments at 100% load.

b) UPS should offer protection for battery from deep discharge and over charging of the batteries. The battery bank should have the Fuse / Circuit Breaker for the protection

6.2.2.16: Video Conferencing Software for conducting internet based interactive Class room (Studio room, class room, conference room):

S.NO	Parameter	Specifications	Compliance
			Yes/No
1	MCU	MCU should be Software based Application preloaded on the Server.	
2	Single Multi-Party Conference	Solution should be able to connect minimum 37 locations at Full HD resolution (1080p) in a Single Video conference at the same time from day 1 . It should be upgradeable to 40 conferences in the same chasis.	
4	Video Codec	Solution should have H.264 , H.264VBR/CBR H.264HP or MPEG or better Video Codec for good video quality at lower bandwidth.	
5	H.323 with H.239	The Solution should have capability to connect minimum 37 Full High Definition (1080p) IP Based H.323/SIP base 2 Hardware Video Conference devices at the same time. The Solution should also able to share data presentations using H.239 with H.323/SIP base 2 user.	
6	Client Software Support	Solution should have client Software available for Windows, Android, and IOS right from day 1.	
7	Data Collaboration	Solution should have capability to share Data in Multi party conference, Document Sharing at low bandwidth and Text chat (Private and Group chat)	
8	Multimedia File Playing	Should be able to play animated/movie files so that audio/video content can be shared with all the participants.	
9	Security	a) System should be 128-bit Fully Encrypted Video Conference Meetings to ensure encrypted data flows between client and server. B) Solution should have Lock / password protected Conference feature /so that once the conference is locked even if someone knows the password cannot enter the Video	

		conference secession.	
10	Voice Activated	Solution should have Voice switching capability wherein the speaker's video should be in bigger video and other users in smaller videos. (Speakers self view should be in smaller Video layout while as at other locations it should be on Bigger Video layout).	
11	Audio Codec	Solution should have G.711, G.722 , G.723 , GIPS, Speex, NR, VAD,AEC and AGC OR better Audio Codec for good quality Audio communication at lower bandwidth	
12	Instant Messenger	MCU should have feature of instant messaging so that without using concurrent licenses users should be able to do chat/group chat, transfer file and send announcement	
13	Network	Solution should be able to work on any kind of network i.e. LAN / WAN / wired / wireless / fixed (pstn/ISDN/GSM/3G), MCU should be able to connect n number of locations with any resolution	
14	Recording	Recording feature should be available	
15	Video format	Should Support SD Resolution and HD resolution	
Additional Features Required For The Solution,:			
S.NO	**Parameter**	**Specifications**	**Compliance** **Yes / No**
1	Presentation Sharing with annotation	Presentation Sharing, whiteboard application. To provide it for all the 37 locations.	
2	Roll Call features/Voting/Polling , mute all with hand raising option	The complete solution should have feature of Roll Call features/Voting/Polling , mute all with hand raising option	
3	Replay Recordings and Live stream video Files	Recording and streaming should be possible both live and Recorded	
4	Data Collaboration- Document, desktop, file and application	The complete solution should have feature of Data Collaboration- Document, desktop, file and application sharing	

	sharing		
5	File transfer feature	File transfer feature should be available to transfer any file from one location to other locations in live session	
6		The Solution should offer option to record on local PC or on central Location	

6.2.2.17: Video Conferencing Desktop

S. No.	Description	Specification	Compliance
	Processor	Intel® Core i5 or higher	
	RAM	Minimum 4GB DDR3	
	HDD	Minimum 500 GB or higher	
	Optical Drive	Super Multi SATA Drive and Double Layer supporting Light scribe Technology	
	Operating System	Windows 8 with license key or latest	
	Microsoft office	MS office 10 or latest with license Key	
	Monitor	Minimum 21" LED/LCD or higher Monitor	
	Audio Features	High Definition Audio 7.1	
	Network Interface	Integrated 10/100/1000 Base T network interface (Broadband Ready)	
	Video Connector	DVI port; HDMI port; Display port	
	Ports	8 USB 2.0 ports, 1 Line-in, 1 Microphone , 2 Headphones, Surround L/R, Center/LFE, Surround rear L/R, LAN , VGA and DVI-D Port (All standard port)	
		Audio and video devices together with their drivers, installed correctly. Using a USB 2.0 port for the connection of the video device is recommended	
		All necessary cables and connectors to make the system compatible should be provided with complete accessories.	

A view of propose furniture's are given for better understanding:

Picture/View of Studio table:

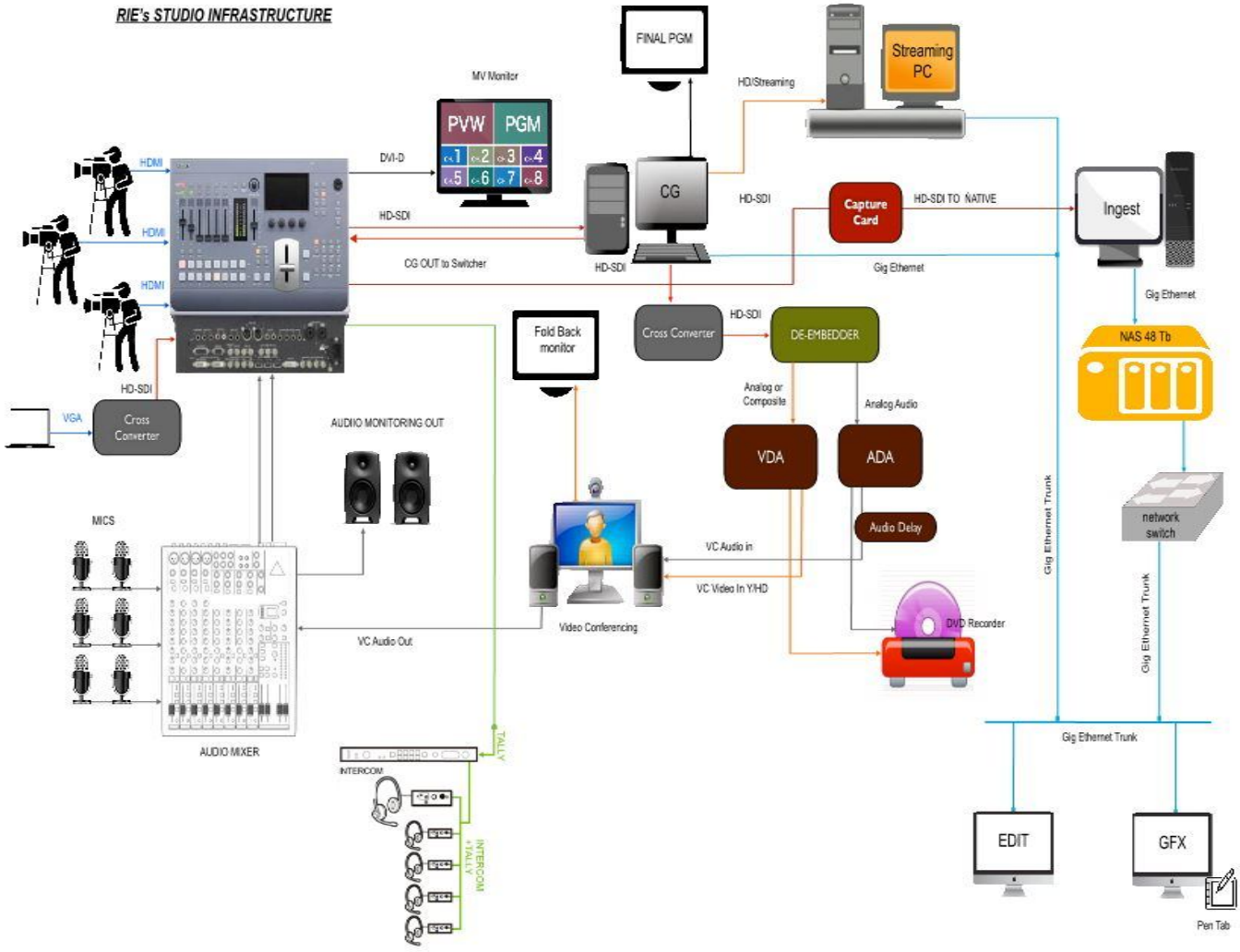
Picture/view of Computer table installed in PCR Room:

Picture of Computer table:-

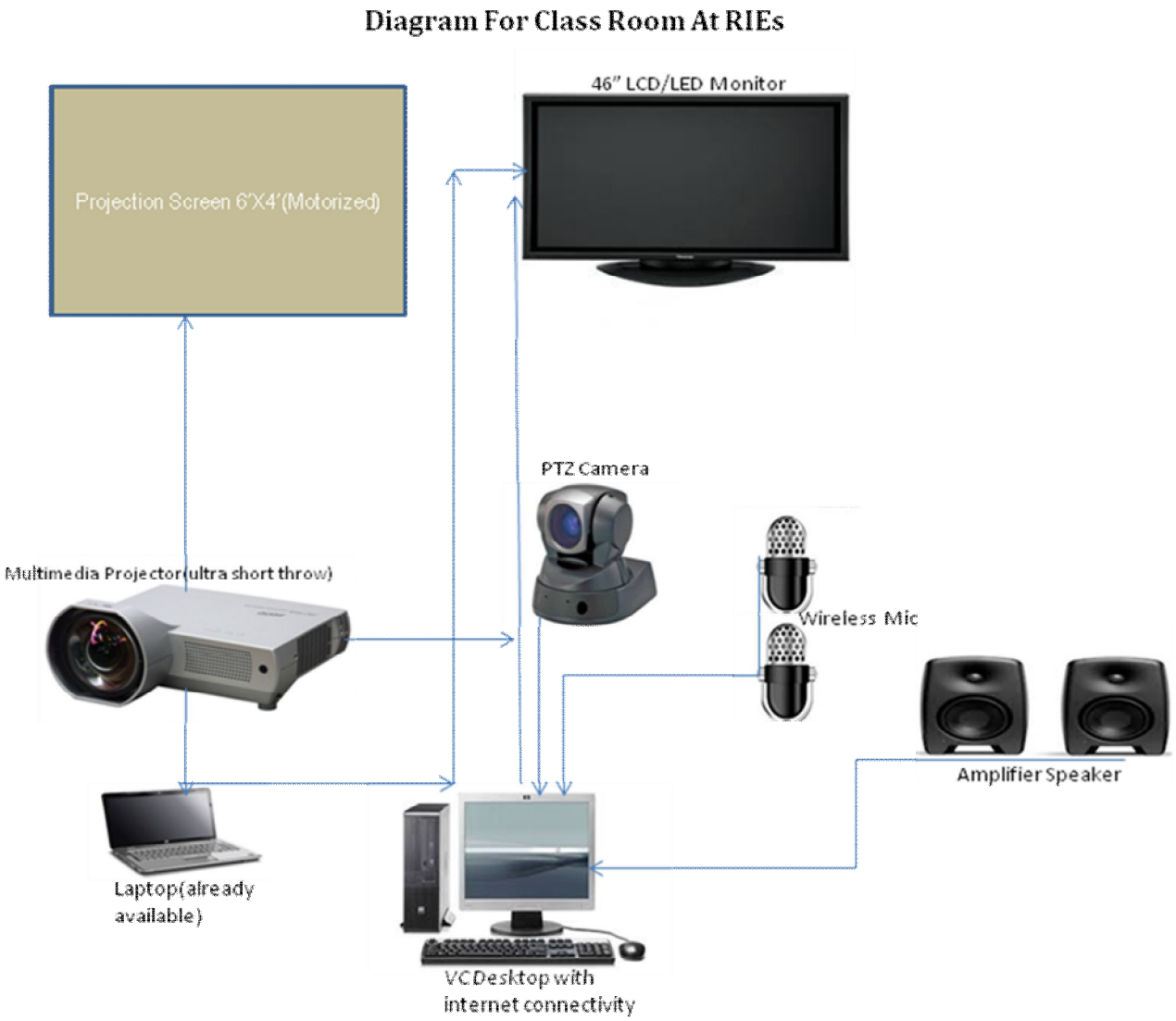
Picture of Computer chair:

6.2.3 System Diagram (tentative):

I. Connectivity Plan Diagram for Studio (Teacher End) at all RIE:



II. Connectivity Plan Diagram for Class rooms at all RIE:



6.2.4: Location Conditions:

It shall be the responsibility on each bidder to fully inform / acquaint / familiarized itself with local conditions and factors, which may have any effect on the execution of services to be rendered under the contract. All bidder (s) intending to bid shall visit and make themselves thoroughly acquainted with the local site conditions.

TCIL shall presume that the bidder has understood and agreed that all the relevant factors have been kept in view while submitting the bid. No financial adjustment arising thereof shall be permitted by Institute, on the basis of any non-clarity of information about local

conditions being pleaded by the tenderer. Further, no claim for financial adjustment being made by the contract awarded on this tender document will be entertained by the TCIL/ NCERT.

The specifications relating to some of the equipment are not fully detailed here. The bidders are at the liberty to quote such equipment as per their choice. However, as a word of caution, such equipments shall be proven products and from reputed manufacturers meeting the broadcasting standards. The offer shall also include the detailed technical brochure and technical manual containing all the technical specifications of such equipment. Any substandard equipment included in the offer may cause the rejection of complete offer with the sole responsibility of bidder.

- END OF SECTION 6 –

SECTION - 7

Tender No.: TCIL/ **TCIL/15/1597/I/14-MM/16E** **July 15, 2014**

BILL OF QUANTITY & PRICE BID SCHEDULE

A. Supply and Services

7.1 Studio Room (Teacher end) at Regional Institute of Education, NCERT (Ref BOQ at section 5)

S. No	Item Descriptions	Unit Of measurement	Total Qty	Base Unit Rate (INR)	Custom Duties	Excise Duty	Freight, packing and insurance	Applicable taxes	Total Unit Price with all taxes , custom, excise duties etc. 9= 4+5+6+7+8	Grand Total (Supply) 10=9*3	Installation Charges per unit	Applicable taxes on Installation	Total Unit Price with taxes 13=11+12	Total (Services) 14=13*3	Total all inclusive (Supply & Services) 15= 10+14
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Camera (Portable HD quality) with adaptor, remote and other accessories	Nos.	15												
2	Tripod	Nos.	15												
3	Video switcher (Multi view out) with essential connecting cables	Nos.	05												
4	Talk back system (4x matrix)	Nos.	05												
5	32” video monitor/T.V (LCD/LED) (Studio + PCR room)	Nos.	10												
6	Audio Mixer (8 channel) with essential connecting cables	Nos.	05												
7	Audio Monitoring System	Nos.	05												

8	VGA Converter	Nos.	05												
9	VDA	Nos.	05												
10	ADA	Nos.	05												
11	SDI to HDMI convertor (for studio fold back display)(optional)	Nos.	05												
12	Studio Cool Lights (LED Lights)	Nos.	15												
13	Hot Light Theatre Spot	Nos.	05												
14	46" LCD/LED monitor	Nos.	05												
15	DVD recorder	Nos.	05												
16	Character Generator with PC	Nos.	05												
17	Mic. Livelier wireless	Nos.	10												
18	Mic. Livelier wired	Nos.	20												
19	NAS based server system (48 TB)	Nos.	05												
20	Streaming PC (with A/v card)	Nos.	05												
21	Post production (NLE system with graphics and editing software) and external DVD Writer	Nos.	05 Set												
22	Ingest system	Nos.	05 Set												
23	Video Graphics system	Nos.	05												
24	Videoconferencing system Teacher End with Desktop PC and all required licenses and accessories	Nos.	05												
25	De-Embedder	Nos.	05												

26	72" (6' x 4 ') wall mounted collapsible projection screen	Nos.	05												
27	Ultra short throw multimedia projector with active tools and accessories	Nos.	05												
28	24 port Switch	Nos.	05												
29	42U Rack	Nos.	05												
30	UPS 4 KVA with one hours battery backup	Nos.	10												
31	Studio Table (Teacher Table)	Nos.	05												
32	Computer Chair	Nos.	55												
33	PCR Equipment Table	Nos.	10												
34	Computer Table / workstation	Nos.	10												
35	All the necessary cable, connectors etc for Integration of the equipment		As per requirement												
	Sub-Total 7.1														

7.2 ICT enable class room (5 Class rooms in each RIE), NCERT (Ref BOQ at section 5)

S. No.	Item Descriptions	Unit Of measurement	Total Qty	Base Unit Rate (INR)	Custom Duties	Excise Duty	Freight, packing and insurance	Applicable taxes	Total Unit Price with all taxes , custom, excise duties etc. 9= 4+5+6+7+8	Grand Total (Supply) 10=9*3	Installation Charges per unit	Applicable taxes on Installation	Total Unit Price with taxes 13=11+12	Total (Services) 14=13*3	Total all inclusive (Supply & Services) 15= 10+14
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	72" (6' x 4 ') wall mounted collapsible projection screen	Nos.	25												
2	Ultra short throw multimedia projector with active tools and accessories	Nos.	25												
3	Amplifier speakers	Nos.	25												

4	PTZ Analog color Camera with Remote controller and essential accessories	Nos.	25													
5	46" LED monitor with stand / wall mount	Nos.	25													
6	Wireless MIC (Hand Held)	Nos.	50													
7	UPS 2 KVA with 30 Mins battery backup	Nos.	25													
8	Videoconferencing system for Interactive Class rooms with Desktop PC and all required licenses and accessories	Nos.	25													
9	All the necessary cable, connectors etc for Integration of the equipment	Nos.	As per requirement													
	Sub-Total 7.2															

7.3 Conference room (One room in each RIE) Ref BOQ at section 5):

S. No.	Item Descriptions	Unit Of measurement	Total Qty	Base Unit Rate (INR)	Custom Duties	Excise Duty	Freight, packing and insurance	Applicable taxes	Total Unit Price with all taxes , custom, excise duties etc. 9= 4+5+6+7+8	Grand Total (Supply) 10=9*3	Installation Charges per unit	Applicable taxes on Installation	Total Unit Price with taxes 13=11+12	Total (Services) 14=13*3	Total all inclusive (Supply & Services) 15= 10+14
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
1	Ultra short throw multimedia projector with active tools and accessories	Nos.	05												
2	72" (6' x 4 ') wall mounted collapsible projection screen	Nos.	05												
3	PTZ Analog color Camera with Remote controller and essential accessories,	Nos.	05												

4	Videoconferencing system with Desktop PC and all required licenses and accessories	Nos.	05													
5	Audio conference system (Delegate Unit)	Nos.	50													
	Secretary Unit	Nos.	20													
	Mic. With Podium	Nos.	05													
6	Audio Recorder	Nos.	05													
7	Amplifier Speakers	Nos.	05													
8	VGA Convertor	Nos.	05													
9	All the necessary cable, connectors etc for Integration of the equipment	Nos.	As per requirement													
	Sub-Total 7.3															

7.4 Requirements in CIET , New Delhi: (Ref BOQ at section 5)

I. Studio 'A' Facilities

S. No.	Item Descriptions	Unit Of measurement	Total Qty	Base Unit Rate (INR)	Custom Duties	Excise Duty	Freight, packing and insurance	Applicable taxes	Total Unit Price with all taxes , custom, excise duties etc. 9= 4+5+6+7+8	Grand Total (Supply) 10=9*3	Installation Charges per unit	Applicable taxes on Installation	Total Unit Price with taxes 13=11+12	Total (Services) 14=13*3	Total all inclusive (Supply & Services) 15= 10+14
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
1	Mac Based Recording/Playback System	Nos.	01												
2	Audio Delay Unit	Nos.	01												
3	VGA convertor	Nos.	01												
4	Character Generator with PC	Nos.	01												
	Sub-Total 7.4(I)														

II. Server Facilities/ Transmission

S. No.	Item Descriptions	Unit Of measurement	Total Qty	Base Unit Rate (INR)	Custom Duties	Excise Duty	Freight, packing and insurance	Applicable taxes	Total Unit Price with all taxes , custom, excise duties etc. 9= 4+5+6+7+8	Grand Total (Supply) 10=9*3	Installation Charges per unit	Applicable taxes on Installation	Total Unit Price with taxes 13=11+12	Total (Services) 14=13*3	Total all inclusive (Supply & Services) 15= 10+14
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	NAS storage system	Nos.	01												
2	Channel Branding	Nos.	01												
3	Analog to SDI Converter	Nos.	03												
4	Mac Based Recording /Playback system	Nos.	01												
	Sub-Total 7.4(II)														

III. Studio 'B' Facilities

S. No.	Item Descriptions	Unit Of measurement	Total Qty	Base Unit Rate (INR)	Custom Duties	Excise Duty	Freight, packing and insurance	Applicable taxes	Total Unit Price with all taxes , custom, excise duties etc. 9= 4+5+6+7+8	Grand Total (Supply) 10=9*3	Installation Charges per unit	Applicable taxes on Installation	Total Unit Price with taxes 13=11+12	Total (Services) 14=13*3	Total all inclusive (Supply & Services) 15= 10+14
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Video Distribution Amplifier	Nos.	07												
2	Audio Distribution Amplifier	Nos.	02												
3	Mac Based Recording/ Playback System	Nos.	01												
4	Audio Delay Unit	Nos.	01												
5	Audio Mixer 12 channel	Nos.	01												
6	VGA Converter	Nos.	01												

7	DVD Recorder	Nos.	01												
8	Character Generator with PC	Nos.	01												
9	Wi-fi enabled Teleprompter (optional)	Nos.	01												
	Sub-Total 7.4(III)														

IV. Graphic unit Room no 102

S. No.	Item Descriptions	Unit Of measurement	Total Qty	Base Unit Rate (INR)	Custom Duties	Excise Duty	Freight, packing and insurance	Applicable taxes	Total Unit Price with all taxes , custom, excise duties etc. 9= 4+5+6+7+8	Grand Total (Supply) 10=9*3	Installation Charges per unit	Applicable taxes on Installation	Total Unit Price with taxes 13=11+12	Total (Services) 14=13*3	Total all inclusive (Supply & Services) 15= 10+14
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
1	Mac Based Graphic System with NAS (24 TB) Video Card, Video Monitor and Tablet- 3 sets with suitable software	Nos.	03												
	Sub-Total 7.4(IV)														

V. EDUSAT facility Room No- 136

S. No.	Item Descriptions	Unit Of measurement	Total Qty	Base Unit Rate (INR)	Custom Duties	Excise Duty	Freight, packing and insurance	Applicable taxes	Total Unit Price with all taxes , custom, excise duties etc. 9= 4+5+6+7+8	Grand Total (Supply) 10=9*3	Installation Charges per unit	Applicable taxes on Installation	Total Unit Price with taxes 13=11+12	Total (Services) 14=13*3	Total all inclusive (Supply & Services) 15= 10+14
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
1	32” LCD/LED video monitor	Nos.	02												
2	LCD video monitor (Triplet)	Nos.	01 Set												
3	DVD Recorder	Nos.	01												
4	Lapel microphones	Nos.	06												

5	LED light	Nos.	02												
6	Hot Light Theatre Spot	Nos.	01												
7	Online UPS (2KVA, 1 hr backup)	Nos.	03												
8	Character Generator with PC	Nos.	01												
9	Ultra short throw projector with active tool & accessories	Nos.	01												
10	72" (6' x 4 ') wall mounted collapsible projection screen	Nos.	01												
11	Audio Mixer (6 channel) with essential connecting cables	Nos.	01												
12	Misc. (Cable, Connectors, Installation Material etc.)	Nos.	As per requirement												
	Sub-Total 7.4(V)														

VI. Sound Studio Room no 029

S. No.	Item Descriptions	Unit Of measurement	Total Qty	Base Unit Rate (INR)	Custom Duties	Excise Duty	Freight, packing and insurance	Applicable taxes	Total Unit Price with all taxes , custom, excise duties etc. 9= 4+5+6+7+8	Grand Total (Supply) 10=9*3	Installation Charges per unit	Applicable taxes on Installation	Total Unit Price with taxes 13=11+12	Total (Services) 14=13*3	Total all inclusive (Supply & Services) 15= 10+14
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Mac Based Computer Recording /Playback System with Professional Audio card and Software	Nos.	02 SET												
2	Up gradation of Neundo SW	Nos.	02 Set												

3	Portable Audio recorder with external microphone	Nos.	02 Set													
	Sub-Total 7.4(VI)															

Grand Total: 7.4 (I +II+ III+ IV+V+VI)= Rs_____

7.5 Requirements in SIET, Pune: (Ref BOQ at section 5)

S. No.	Item Descriptions	Unit Of measurement	Total Qty	Base Unit Rate (INR)	Custom Duties	Excise Duty	Freight, packing and insurance	Applicable taxes	Total Unit Price with all taxes , custom, excise duties etc. 9= 4+5+6+7+8	Grand Total (Supply) 10=9*3	Installation Charges per unit	Applicable taxes on Installation	Total Unit Price with taxes 13=11+12	Total (Services) 14=13*3	Total all inclusive (Supply & Services) 15= 10+14
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Video Switcher	Nos.	1												
2	Audio Mixer(12 channel)	Nos.	1												
3	Studio Talkback System	Nos.	1												
4	Video recording /Playback System	Nos.	2												
5	ENG camera unit	Nos.	2												
6	Audio Monitoring system	Nos.	1												
7	46" LCD Video Monitor	Nos.	1												
8	video monitor (TV)	Nos.	2												
9	Video graphics system	Nos.	1												
10	Character Generator with PC	Nos.	1												
11	Misc. (Cable, Connectors, Installation Material etc.)	Nos.	As per requiremrnt												
	Sub-Total 7.5														

7.6 Requirements in SIET , Hyderabad: (Ref BOQ at section 5)

S. No.	Item Descriptions	Unit Of measurement	Total Qty	Base Unit Rate (INR)	Custom Duties	Excise Duty	Freight, packing and insurance	Applicable taxes	Total Unit Price with all taxes , custom, excise duties etc. 9= 4+5+6+7+8	Grand Total (Supply) 10=9*3	Installation Charges per unit	Applicable taxes on Installation	Total Unit Price with taxes 13=11+12	Total (Services) 14=13*3	Total all inclusive (Supply & Services) 15= 10+14
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Video Switcher	Nos.	01												
2	Studio Talkback System	Nos.	01												
3	LED/LCD Display 46" for PCR	Nos.	01												
4	video monitor (TV)	Nos.	02												
5	Video recording System (Hard Drive Recording)	Nos.	02												
6	ENG camera unit	Nos.	02												
7	Editing NLE FCP with Video Monitor	Nos.	01												
8	UPS 2kva with one hour battery backup	Nos.	01												
9	LED Lights	Nos.	02												
10	Hot Light Theatre Spot	Nos.	02												
11	Audio Mixer (16 ch)	Nos.	01												
12	Video Graphic System	Nos.	01												
13	Character Generator with PC	Nos.	01												
14	Misc. (cable, connectors, installation material etc.)	Nos.	As per requiremrnt												
	Sub-Total 7.6														

7.7 Requirements in SIET , Ahmadabad: (Ref BOQ at section 5)

S. No.	Item Descriptions	Unit Of measurement	Total Qty	Base Unit Rate (INR)	Custom Duties	Excise Duty	Freight, packing and insurance	Applicable taxes	Total Unit Price with all taxes , custom, excise duties etc. 9= 4+5+6+7+8	Grand Total (Supply) 10=9*3	Installation Charges per unit	Applicable taxes on Installation	Total Unit Price with taxes 13=11+12	Total (Services) 14=13*3	Total all inclusive (Supply & Services) 15= 10+14
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Editing NLE (FCP) with video monitor	Nos.	1												
2	UPS 2kva with 0ne hour battery backup	Nos.	1												
3	Character Generator with PC	Nos.	1												
	Sub-Total 7.7														

Grand Total Value: A (7.1+7.2+7.3+7.4+7.5+7.6+7.7) = Rs_____

Total Value (A) in words: INR _____

B. Annual Maintenance Contract (AMC) non comprehensive:

7.8 Studio Room (Teacher end) at Regional Institute of Education, NCERT (Ref BOQ at section 5)

S. No.	Item Descriptions	Unit	Rate Yearly(INR)	Tax applicable	Total with Tax(INR
AMC					
1	Cost of AMC (non comprehensive) for 1st year				
2	Cost of AMC(non comprehensive) for 2nd year				
3	Cost of AMC(non comprehensive) for 3rd year				
4	Cost of AMC (non comprehensive) for 4th year				

5	Cost of AMC (non comprehensive) for 5th year				
	Grand Total				

7.9 ICT enable class room (5 Class rooms in each RIE), NCERT (Ref BOQ at section 5)

S. No.	Item Descriptions	Unit	Rate Yearly(INR)	Tax applicable	Total with Tax(INR
AMC					
1	Cost of AMC (non comprehensive) for 1st year				
2	Cost of AMC(non comprehensive) for 2nd year				
3	Cost of AMC(non comprehensive) for 3rd year				
4	Cost of AMC (non comprehensive) for 4th year				
5	Cost of AMC (non comprehensive) for 5th year				
	Grand Total				

7.10 Conference room (One room in each RIE) Ref BOQ at section 5):

S. No.	Item Descriptions	Unit	Rate Yearly(INR)	Tax applicable	Total with Tax(INR
AMC					
1	Cost of AMC (non comprehensive) for 1st year				
2	Cost of AMC(non comprehensive) for 2nd year				
3	Cost of AMC(non comprehensive) for 3rd year				
4	Cost of AMC (non comprehensive) for 4th year				
5	Cost of AMC (non comprehensive) for 5th year				
	Grand Total				

7.11 Requirements in CIET , New Delhi: (Ref BOQ at section 5)

I. Studio 'A' Facilities

S. No.	Item Descriptions	Unit	Rate Yearly(INR)	Tax applicable	Total with Tax(INR
AMC					
1	Cost of AMC (non comprehensive) for 1st year				

2	Cost of AMC(non comprehensive) for 2nd year				
3	Cost of AMC(non comprehensive) for 3rd year				
4	Cost of AMC (non comprehensive) for 4th year				
5	Cost of AMC (non comprehensive) for 5th year				
			Grand Total		

II. Server Facilities/ Transmission

S. No.	Item Descriptions	Unit	Rate Yearly(INR)	Tax applicable	Total with Tax(INR
AMC					
1	Cost of AMC (non comprehensive) for 1st year				
2	Cost of AMC(non comprehensive) for 2nd year				
3	Cost of AMC(non comprehensive) for 3rd year				
4	Cost of AMC (non comprehensive) for 4th year				
5	Cost of AMC (non comprehensive) for 5th year				
			Grand Total		

III. Studio 'B' Facilities

S. No.	Item Descriptions	Unit	Rate Yearly(INR)	Tax applicable	Total with Tax(INR
AMC					
1	Cost of AMC (non comprehensive) for 1st year				
2	Cost of AMC(non comprehensive) for 2nd year				
3	Cost of AMC(non comprehensive) for 3rd year				
4	Cost of AMC (non comprehensive) for 4th year				
5	Cost of AMC (non comprehensive) for 5th year				
			Grand Total		

IV. Graphic unit Room no 102

S. No.	Item Descriptions	Unit	Rate Yearly(INR)	Tax applicable	Total with Tax(INR
AMC					
1	Cost of AMC (non comprehensive) for 1st year				
2	Cost of AMC(non comprehensive) for 2nd year				
3	Cost of AMC(non comprehensive) for 3rd year				
4	Cost of AMC (non comprehensive) for 4th year				
5	Cost of AMC (non comprehensive) for 5th year				
	Grand Total				

V. EDUSAT facility Room No- 136

S. No.	Item Descriptions	Unit	Rate Yearly(INR)	Tax applicable	Total with Tax(INR
AMC					
1	Cost of AMC (non comprehensive) for 1st year				
2	Cost of AMC(non comprehensive) for 2nd year				
3	Cost of AMC(non comprehensive) for 3rd year				
4	Cost of AMC (non comprehensive) for 4th year				
5	Cost of AMC (non comprehensive) for 5th year				
	Grand Total				

VI. Sound Studio Room no 029

S. No.	Item Descriptions	Unit	Rate Yearly(INR)	Tax applicable	Total with Tax(INR
AMC					
1	Cost of AMC (non comprehensive) for 1st year				
2	Cost of AMC(non comprehensive) for 2nd year				
3	Cost of AMC(non comprehensive) for 3rd year				
4	Cost of AMC (non comprehensive) for 4th year				

5	Cost of AMC (non comprehensive) for 5th year				
			Grand Total		

Grand Total: 7.11 (I +II+ III+ IV+V+VI)=Rs_____

7.12 Requirements in SIET, Pune: (Ref BOQ at section 5)

S. No.	Item Descriptions	Unit	Rate Yearly(INR)	Tax applicable	Total with Tax(INR
AMC					
1	Cost of AMC (non comprehensive) for 1st year				
2	Cost of AMC(non comprehensive) for 2nd year				
3	Cost of AMC(non comprehensive) for 3rd year				
4	Cost of AMC (non comprehensive) for 4th year				
5	Cost of AMC (non comprehensive) for 5th year				
			Grand Total		

7.13 Requirements in SIET , Hyderabad: (Ref BOQ at section 5)

S. No.	Item Descriptions	Unit	Rate Yearly(INR)	Tax applicable	Total with Tax(INR
AMC					
1	Cost of AMC (non comprehensive) for 1st year				
2	Cost of AMC(non comprehensive) for 2nd year				
3	Cost of AMC(non comprehensive) for 3rd year				
4	Cost of AMC (non comprehensive) for 4th year				
5	Cost of AMC (non comprehensive) for 5th year				
			Grand Total		

7.14 Requirements in SIET , Ahmadabad: (Ref BOQ at section 5)

S. No.	Item Descriptions	Unit	Rate Yearly(INR)	Tax applicable	Total with Tax(INR
AMC					
1	Cost of AMC (non comprehensive) for 1st year				
2	Cost of AMC(non comprehensive) for 2nd year				
3	Cost of AMC(non comprehensive) for 3rd year				
4	Cost of AMC (non comprehensive) for 4th year				
5	Cost of AMC (non comprehensive) for 5th year				
	Grand Total				

Grand Total Value: B (7.8+7.9+7.10+7.11+7.12+7.13+7.14) = Rs._____

Total Value (B) in words: INR _____

Grand Total (A+B): Supply , Services and AMC (non comprehensive)= INR_____

Grand Total (A+B) in words: INR _____

OPTIONAL:

1. **Spare:**

S. No.	Equipment Description	Qty	Unit Rate	Custom/ Excise	Total	Applicable taxes	Total with Tax

2. **Annual Maintenance Contract (AMC) comprehensive**: (As per BOQ at section 5)

2.1 Studio Room (Teacher end) at Regional Institute of Education, NCERT (Ref BOQ at section 5)

S. No.	Item Descriptions	Unit	Rate Yearly(INR)	Tax applicable	Total with Tax(INR
AMC					
1	Cost of AMC (comprehensive) for 1st year				
2	Cost of AMC(comprehensive) for 2nd year				
3	Cost of AMC(comprehensive) for 3rd year				
4	Cost of AMC (comprehensive) for 4th year				
5	Cost of AMC (comprehensive) for 5th year				
	Grand Total				

2.2 ICT enable class room (5 Class rooms in each RIE), NCERT (Ref BOQ at section 5)

S. No.	Item Descriptions	Unit	Rate Yearly(INR)	Tax applicable	Total with Tax(INR
AMC					
1	Cost of AMC (comprehensive) for 1st year				
2	Cost of AMC(comprehensive) for 2nd year				

3	Cost of AMC(comprehensive) for 3rd year				
4	Cost of AMC (comprehensive) for 4th year				
5	Cost of AMC (comprehensive) for 5th year				
	Grand Total				

2.3 Conference room (One room in each RIE) Ref BOQ at section 5):

S. No.	Item Descriptions	Unit	Rate Yearly(INR)	Tax applicable	Total with Tax(INR
AMC					
1	Cost of AMC (comprehensive) for 1st year				
2	Cost of AMC(comprehensive) for 2nd year				
3	Cost of AMC(comprehensive) for 3rd year				
4	Cost of AMC (comprehensive) for 4th year				
5	Cost of AMC (comprehensive) for 5th year				
	Grand Total				

2.4 Requirements in CIET , New Delhi: (Ref BOQ at section 5)

I. Studio 'A' Facilities

S. No.	Item Descriptions	Unit	Rate Yearly(INR)	Tax applicable	Total with Tax(INR
AMC					
1	Cost of AMC (comprehensive) for 1st year				
2	Cost of AMC(comprehensive) for 2nd year				
3	Cost of AMC(comprehensive) for 3rd year				
4	Cost of AMC (comprehensive) for 4th year				
5	Cost of AMC (comprehensive) for 5th year				
	Grand Total				

II. Server Facilities/ Transmission

S. No.	Item Descriptions	Unit	Rate Yearly(INR)	Tax applicable	Total with Tax(INR
AMC					
1	Cost of AMC (comprehensive) for 1st year				
2	Cost of AMC(comprehensive) for 2nd year				
3	Cost of AMC(comprehensive) for 3rd year				
4	Cost of AMC (comprehensive) for 4th year				
5	Cost of AMC (comprehensive) for 5th year				
	Grand Total				

III. Studio 'B' Facilities

S. No.	Item Descriptions	Unit	Rate Yearly(INR)	Tax applicable	Total with Tax(INR
AMC					
1	Cost of AMC (comprehensive) for 1st year				
2	Cost of AMC(comprehensive) for 2nd year				
3	Cost of AMC(comprehensive) for 3rd year				
4	Cost of AMC (comprehensive) for 4th year				
5	Cost of AMC (comprehensive) for 5th year				
	Grand Total				

IV. Graphic unit Room no 102

S. No.	Item Descriptions	Unit	Rate Yearly(INR)	Tax applicable	Total with Tax(INR
AMC					
1	Cost of AMC (comprehensive) for 1st year				

2	Cost of AMC(comprehensive) for 2nd year				
3	Cost of AMC(comprehensive) for 3rd year				
4	Cost of AMC (comprehensive) for 4th year				
5	Cost of AMC (comprehensive) for 5th year				
				Grand Total	

V. EDUSAT facility Room No- 136

S. No.	Item Descriptions	Unit	Rate Yearly(INR)	Tax applicable	Total with Tax(INR
AMC					
1	Cost of AMC (comprehensive) for 1st year				
2	Cost of AMC(comprehensive) for 2nd year				
3	Cost of AMC(comprehensive) for 3rd year				
4	Cost of AMC (comprehensive) for 4th year				
5	Cost of AMC (comprehensive) for 5th year				
				Grand Total	

VI. Sound Studio Room no 029

S. No.	Item Descriptions	Unit	Rate Yearly(INR)	Tax applicable	Total with Tax(INR
AMC					
1	Cost of AMC (comprehensive) for 1st year				
2	Cost of AMC(comprehensive) for 2nd year				
3	Cost of AMC(comprehensive) for 3rd year				
4	Cost of AMC (comprehensive) for 4th year				
5	Cost of AMC (comprehensive) for 5th year				
				Grand Total	

Grand Total: 2.4 (I +II+ III+ IV+V+VI)= Rs_____

2.5 Requirements in SIET, Pune: (Ref BOQ at section 5)

S. No.	Item Descriptions	Unit	Rate Yearly(INR)	Tax applicable	Total with Tax(INR
AMC					
1	Cost of AMC (comprehensive) for 1st year				
2	Cost of AMC(comprehensive) for 2nd year				
3	Cost of AMC(comprehensive) for 3rd year				
4	Cost of AMC (comprehensive) for 4th year				
5	Cost of AMC (comprehensive) for 5th year				
	Grand Total				

2.6 Requirements in SIET , Hyderabad: (Ref BOQ at section 5)

S. No.	Item Descriptions	Unit	Rate Yearly(INR)	Tax applicable	Total with Tax(INR
AMC					
1	Cost of AMC (comprehensive) for 1st year				
2	Cost of AMC(comprehensive) for 2nd year				
3	Cost of AMC(comprehensive) for 3rd year				
4	Cost of AMC (comprehensive) for 4th year				
5	Cost of AMC (comprehensive) for 5th year				
	Grand Total				

2.7 Requirements in SIET , Ahmadabad: (Ref BOQ at section 5)

S. No.	Item Descriptions	Unit	Rate Yearly(INR)	Tax applicable	Total with Tax(INR
AMC					
1	Cost of AMC (comprehensive) for 1st year				
2	Cost of AMC(comprehensive) for 2nd year				
3	Cost of AMC(comprehensive) for 3rd year				
4	Cost of AMC (comprehensive) for 4th year				
5	Cost of AMC (comprehensive) for 5th year				
	Grand Total				

Grand Total Value: 2 (2.1+2.2+2.3+2.4+2.5+2.6+2.7) = Rs._____

Total Value (2) in words: INR _____

END OF SECTION 7

SECTION - 8

Tender No.: TCIL/ **TCIL/15/1597/I/14-MM/16E** **July 15, 2014**

FORMAT OF BID BOND (EMD)

Whereas ……. (hereinafter called "the Bidder") has submitted its bid dated …… For the supply of ……. Vide Tender No. …….. dated …… KNOW ALL MEN by these presents that WE ……. OF ……. Having our registered office at …….. (hereinafter called "the Bank") are bound unto Telecommunications Consultants India Limited (hereinafter called "the Purchaser") in the sum of Rs. …… for which payment will and truly to be made of the said Purchaser, the Bank binds itself, its successors and assigns by these present.

THE CONDITIONS of the obligation are:

1. If the Bidder withdraws his bid during the period of bid validity specified by the Bidder on the Bid form or

2. If the Bidder, having been notified of the acceptance of his bid by the Purchaser during the period of bid validity

   (a) fails or refuses to execute the Contract, if required; or

   (b) fails or refuses to furnish the Performance Security, in accordance with the instructions to Bidders.

We undertake to pay to the Purchaser up to the above amount upon receipt of its first written demand, without the purchaser having to substantiate its demand, provided that in its demand, the purchaser will note that the amount claimed by it is due to it owning to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force upto and including THIRTY (30) days after the Period of bid validity and any demand in respect thereof should reach the Bank not later than the specified date/dates.

Signature of the Bank Authority.

Name

Signed in Capacity of

Name & Signature of witness

Full address of Branch

Address of witness

Tel No. of Branch

Fax No. of Branch

END OF SECTION 8 –

PERFORMANCE BANK GUARANTEE (PBG Format)

(TO BE ISSUED BY A DELHI BRANCH)

M/s Telecommunications Consultants India Ltd.,
TCIL Bhawan, Greater Kailash-I
New Delhi – 110 048 (INDIA)

(With due stamp duty if applicable)

OUR LETTER OF GUARANTEE No. : _____

In consideration of TELECOMMUNICATIONS CONSULTANTS INDIA LIMITED, having its office at TCIL Bhawan, Greater Kailash-I, New Delhi – 110 048 (INDIA) (hereinafter referred to as "TCIL" which expression shall unless repugnant to the content or meaning thereof include all its successors, administrators and executors) and having entered into an agreement dated _____/issued Purchase Order No. _____ dated _____ with/on M/s _____ (hereinafter referred to as "The Supplier" which expression unless repugnant to the content or meaning thereof, shall include all the successors, administrators, and executors).

WHEREAS the Supplier having unequivocably accepted to supply the materials/services as per terms and conditions given in the Agreement dated _____ /Purchase Order No. _____ dated _____ and TCIL having agreed that the Supplier shall furnish to TCIL a Performance Guarantee for the faithful performance of the entire contract, to the extent of 10% (ten percent) of the value of the Purchase Order i.e. for _____.

We, _____ ("The Bank") which shall include OUR successors, administrators and executors herewith establish an irrevocable Letter of Guarantee No.

_____ in your favour for account of _____ (The Supplier) in cover of performance guarantee in accordance with the terms and conditions of the Agreement/Purchase Order.

Hereby, we undertake to pay upto but not exceeding _____ (say _____ only) upon receipt by us of your first written demand accompanied by your declaration stating that the amount claimed is due by reason of the Supplier having failed to perform the Agreement and despite any contestation on the part of above named supplier.

This Letter of Guarantee will expire on _____ including 30 days of claim period and any claims made hereunder must be received by us on or before expiry date after which date this Letter of Guarantee will become of no effect whatsoever whether returned to us or not.

_____

Authorized Signature

Manager

Seal of Bank

- END OF SECTION 9 -

SECTION-10

Tender No.: TCIL/ **TCIL/15/1597/I/14-MM/16E** **July 15, 2014**

BID SUBMISSION FORM

Offer No.: _____ Date: _____

To

Group General Manager (MM)
Telecommunications Consultants India Limited
TCIL Bhawan, Greater Kailash-I,
New Delhi-110 048 (INDIA).

Dear Sir,

In response to your **Tender No. TCIL/_____dated** for _____ _____, we hereby submit our offer herewith.

1.	Bidder Name		: _____
2.	Website Address		: _____
3.	Email Address		: _____
4.	Address for Communication		: _____
			_____
			_____
5.	Telephone Number		: _____
6.	Fax/Telefax Number		: _____
7.	Authorised Person -	Name	: _____
		Designation	: _____
		Mobile No.	: _____

Email ID : _____

8. Alternate Person - Name : _____

Designation : _____

Mobile No. : _____

Email ID : _____

9. PAN Number : _____

10. TIN Number : _____

State : _____

11. Service Tax Regn. No. : _____

12. ECC Number : _____

13. Beneficiary's complete Bank Details in case payment through LC is approved.

Bank Account No. : _____

IFSC / NEFT Code : _____

Name of the Bank : _____

Address of the Branch : _____

14. <u>Particulars of EMD</u>

Amount : Rs. _____

Mode of Payment (DD/BG) : _____

DD/BG No. : _____

Date : _____

Name of the Bank : _____

Address of the Bank : _____

Validity of BG : _____

15. <u>Particulars of Tender Fee</u>

Amount : Rs._____

DD No. : _____

Date : _____

Name of the Bank : _____

Address of the Bank : _____

16. Turnover of the Bidder in last 3 years (Please submit copy of Annual Report)

Year	**Annual Report attached at Page No.**	**Turnover in Rs. (Lakh)**
2013-2014		
2012-2013		
2011-2012		
	Average Turnover	

17. Details of similar work / order executed during last 2 years ending 30.06.2014
(Please submit copy of completion certificate from the client.

Description of the Work/Order Executed	**Value of Work/Order Executed**	**Name of the Client**	**Start Date**	**Finish Date**	**Doc. Evidence at Page No.**

18. Are you a MSME Unit. If yes, please furnish Registration Details, Name of the DIC / State.

19. Following Documents are submitted to substantiate other eligibility criteria.

i) _____

ii) _____

iii) _____

DECLARATION

1) We have read and understood the terms & conditions of the above mentioned tender and comply to all Terms & Conditions of your Tender.
(In case of any deviation the Bidder must attach a separate sheet clearly mentioning the Clause No. of the Tender and Deviation thereto)

2) We certify that the information mentioned above are true and correct to best of our knowledge.

3) In case of receipt of order we confirm that payment shall be received through e-Banking / Electronics Transfer.

4) This offer contains _____ No. of pages including all Annexures and Enclosures.

Place:
Date:

Signature of Authorised Signatory
Name:
Designation:
Seal:

- END OF SECTION 10 –

SECTION-11

Tender No.: TCIL/ **TCIL/15/1597/I/14-MM/16E** **July 15, 2014**

INTEGRITY PACT

General

This Agreement (hereinafter called the Integrity Pact) is made on _____ day of the _____ month of 20_____, between on one hand, Telecommunications Consultants India Ltd. (TCIL) acting through Sh._____ (Name & Designation of the officer) (Hereinafter called the "BUYER" which expression shall mean and include, unless the context otherwise requires, his successors in office and assigns) of the First Part and M/s. _____ (Name of the Company) represented by Sh._____ _____ Chief Executive Officer/Authorized Signatory (Name & Designation of the officer) (hereinafter called the "BIDDER/Seller" which expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns) of the Second Part.

WHEREAS THE BUYER invites bid against Tender/RFO/EOI/RFP/RFQ for the _____

_____

_____ (Name of the Stores/Equipment/Services, Ref No. & Date) and the BIDDER/Seller is willing to submit bid for the same and WHEREAS the BIDDER is a Private Company/ Public Company/ Government Undertaking/ Partnership Firm/Proprietorship Firm/ Registered Export Agency, constituted in accordance with the relevant law in the matter and the BUYER is a Public Sector Undertaking.

NOW, THEREFORE

To avoid all forms of corruption by following a system that is fair, transparent and free from any influence/prejudiced dealings prior to, during and subsequent to the currency of the contract to be entered into with a view to :-

Enabling the BUYER to obtain the desired said stores/equipment/Services at a competitive price in conformity with the defined specifications by avoiding the high cost and the distortionary impact of corruption on public procurement, and Enabling BIDDERs to abstain from bribing or indulging in any corrupt practice in order to secure the contract(s) by providing assurance to them that their

competitors will also abstain from bribing and other corrupt practices and the BUYER will commit to prevent corruption, in any form, by its officials by following transparent procedures.

The parties hereto hereby agree to enter into this Integrity Pact and agree as follows:-

1. **Commitments of the BUYER**

1.1 The BUYER undertakes that no official of the BUYER, connected directly or indirectly with the contract(s), will demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favour or any material or immaterial benefit or any other advantage from the BIDDER, either for themselves or for any person, organization or third party related to the contract(s) in exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the contract(s).

1.2 The BUYER will, during the pre-contract stage, treat all BIDDERs alike, and will provide to all BIDDERs the same information and will not provide any such information to any particular BIDDER which could afford an advantage to that particular BIDDER in comparison to other BIDDERs.

1.3 All the officials of the BUYER will report to the CMD, TCIL any attempted or completed breaches of the above commitments as well as any substantial suspicion of such a breach.

2. In case any such preceding misconduct on the part of such official(s) is reported by the BIDDER to the BUYER with full and verifiable facts and the same is prima facie found to be correct by the BUYER, necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings may be initiated by the BUYER and such a person shall be debarred from further dealings related to the contract(s) process. In such a case while an enquiry is being conducted by the BUYER the proceedings under the contract(s) would not be stalled.

3. **Commitments of BIDDERs**

The BIDDER commits itself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its bid or during any pre-contract or post-contract stage in order to secure the contract(s) or in furtherance to secure it and in particular commit itself to the following :-

3.1 The BIDDER will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the BUYER, connected directly or indirectly with the bidding process, or to any person, organization or third party related to the contract(s) in

exchange for any advantage in the bidding, evaluation, contracting and implementation of the contract(s).

3.2 The BIDDER further undertakes that it has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the BUYER or otherwise in procuring the contract(s) or forbearing to do or having done any act in relation to the obtaining or execution of the contract(s) or any other contract(s) with TCIL for showing or forbearing to show favour or disfavour to any person in relation to the contract(s) or any other contract(s) with TCIL.

3.3 BIDDERs shall disclose the name and address of agents and representatives and Indian BIDDERs shall disclose their foreign principals or associates.

3.4 BIDDERs shall disclose the payments to be made by them to agents/brokers or any other intermediary, in connection with this bid/contract(s).

3.5 The BIDDER further confirms and declares to the BUYER that the BIDDER has not engaged any individual or firm or company whether Indian or foreign to intercede, facilitate or in any way to recommend to the BUYER or any of its functionaries, whether officially or unofficially to the award of the contract(s) to the BIDDER, nor has any amount been paid, promised or intended to be paid to any such individual, firm or company in respect of any such intercession, facilitation or recommendation.

3.6 The BIDDER, either while presenting the bid or during pre-contract negotiations or before signing the contract(s) shall disclose any payment he has made, is committed to or intends to make to officials of the BUYER or their family members, agents brokers or any other intermediaries in connection with the contract(s) and the details of services agreed upon for such payments.

3.7 The BIDDER will not collude with other parties interested in the contract(s) to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the contract(s).

3.8 The BIDDER will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.

3.9 The BIDDER shall not use improperly, for purposes of competition or personal gain, or pass on to others any information provided by the BUYER as part of the business relationship, regarding plans, technical proposals and business details, including information contained in any electronic data carrier. The BIDDER also undertakes to exercise due and adequate care lest any such information is divulged.

3.10 The BIDDER commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.

3.11 The BIDDER shall not instigate or cause to instigate any third person to commit any of the actions mentioned above.

3.12 If the Bidder or any employee of the BIDDER or any person acting on behalf of the BIDDER, either directly or indirectly, is a relative of any of the officers of the BUYER, or alternatively, if any relative of an officer of the BUYER has financial interest/stake in the BIDDER's firm, the same shall be disclosed by the BIDDER at the time of filing of tender.

The term 'relative' for this purpose would be as defined in Section 6 of the Companies Act 1956.

3.13 The BIDDER shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of the BUYER.

3.14 The BIDDER will not bring any Political, Governmental or Diplomatic influence to gain undue advantage in its dealing with BUYER.

3.15 The BIDDER will promptly inform the Independent External Monitor (of BUYER) if he receives demand for a bribe or illegal payment/benefit and

i. If comes to know of any unethical or illegal practice in BUYER.

ii. If he makes any payment to any BUYER Associate.

3.16 The BIDDER will undertake to demand from all sub-contractors a commitment in conformity with this Integrity Pact.

3.17 The Bidder will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

4. **Previous Transgression**

4.1 The BIDDER declares that no previous transgression occurred in the last three years immediately before signing of this Integrity Pact, with any other company in any country in respect of any corrupt practices envisaged hereunder or with any Public Sector Enterprise in India or any Government Department in India that could justify BIDDER's exclusion from the tender process.

4.2 The BIDDER agrees that if it makes incorrect statement on this subject, BIDDER can be disqualified from the tender process or the contract(s), if already awarded, can be terminated for such reason.

5. Sanctions for Violations

5.1 Any breach of the aforesaid provisions by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER) shall entitle the BUYER to take all or any one of the following actions, wherever required:-

i) To immediately call off the pre contract negotiations without assigning any reason or giving any compensation to the BIDDER. However, the proceedings with the other BIDDER(s) would continue.

ii) The Earnest Money Deposit (in pre-contract stage) and/or Security Deposit/Performance Bond (after the contract(s) is/are signed) shall stand forfeited either fully or partially, as decided by the BUYER and the BUYER shall not be required to assign any reason therefore.

iii) To immediately cancel the contract(s), if already signed, without giving any compensation to the BIDDER.

iv) To recover all sums already paid by the BUYER, and in case of an Indian BIDDER with interest thereon at 5% higher than the prevailing Base Rate of State Bank of India, while in case of a BIDDER from a country other than India with interest thereon at 5% higher than the LIBOR. If any outstanding payment is due to the BIDDER from the BUYER in connection with any other contract(s), such outstanding payment could also be utilized to recover the aforesaid sum and interest.

v) To encash the advance Bank Guarantee and performance bond/warranty bond, if furnished by the BIDDER, in order to recover the payments, already made by the BUYER, alongwith interest.

vi) To cancel all or any other Contracts with the BIDDER. The BIDDER shall be liable to pay compensation for any loss or damage to the BUYER resulting from such cancellation/rescission and the BUYER shall be entitled to deduct the amount so payable from the money(s) due to the BIDDER

vii) To debar the BIDDER from participating in future bidding processes of TCIL for a minimum period of five years, which may be further extended at the discretion of the BUYER.

viii) To recover all sums paid in violation of this Pact by BIDDER(s) to any middleman or agent or broker with a view to securing the contract(s).

ix) In cases where irrevocable Letters of Credit have been received in respect of any contract(s) signed by the BUYER with the BIDDER, the same shall not be opened.

x) Forfeiture of Performance Bond in case of a decision by the BUYER to forfeit the same without assigning any reason for imposing sanction for violation of this Pact.

xi) Any other action as decided by CMD, TCIL based on the recommendation by Independent External Monitors (IEMs).

5.2 The BUYER will be entitled to take all or any of the actions mentioned at para 5.1(i) to (xi) of this Pact also on the Commission by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER), of an offence as defined in Chapter IX of the Indian Penal Code, 1860 or Prevention of Corruption Act 1988 or any other statute enacted for prevention of corruption.

5.3 The decision of the BUYER to the effect that a breach of the provisions of this Pact has been committed by the BIDDER shall be final and conclusive on the BIDDER. However, the BIDDER can approach the Independent External Monitor (s) appointed for the purposes of this Pact.

5.4 For any breach of the provisions of Clauses 1.1 to 1.3 by the Buyer, action as mentioned at Clause 2 shall be applicable.

6. Fall Clause

6.1 The BIDDER undertakes that it has not supplied similar products/systems or subsystems in the past six months in the same State for quantity variation upto -50% or +10%, at a price lower than that offered in the present bid in respect of any other Ministry/Department of the Government of India or PSU and if it is found at any stage that similar products/systems or sub systems was supplied by the BIDDER to any other Ministry/Department of the Government of India or a PSU at a lower price, then that very price will be applicable to the present case and the

difference in the cost would be refunded by the BIDDER to the BUYER, if the contract(s) has/have already been concluded, else it will be recovered, from any outstanding payment due to bidder from TCIL.

7. Independent External Monitor (IEMs)

7.1 The BUYER has appointed Independent External Monitors (IEMs) for this Pact in consultation with the Central Vigilance Commission. Names and email addresses of the IEMs are given on TCIL Website.

7.2 The task of the IEMs shall be to review independently and objectively, whether and to what extent the parties comply with the obligations under this Pact.

7.3 The IEMs shall not be subject to instructions by the representatives of the parties and perform their functions neutrally and independently. They report to the CMD, TCIL.

7.4 Both the parties accept that the IEMs have the right to access all the documents relating to the project/procurement, including minutes of meetings.

7.5 As soon as the IEM notices, or has reason to believe, a violation of this Pact, he will so inform the CMD, TCIL. The IEM can in this regard submit nonbinding recommendations. If TCIL has not, within the reasonable time, taken visible action to proceed against such offence, the IEM may inform directly to the Board of Directors, TCIL.

7.6 The BIDDER(s) accepts that the IEM has the right to access without restriction to all Project documentation of the BUYER including that provided by the BIDDER. The BIDDER will also grant the IEM, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The same is applicable to Subcontractors. The IEM shall be under obligation to treat the information and documents of the BIDDER / Subcontractor(s) with confidentiality.

7.7 The BUYER will provide to the IEM sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the parties. The parties will offer to the IEM the option to participate in such meetings.

7.8 The IEM will submit a written report to the CMD, TCIL within 8 to 10 weeks from the date of reference or intimation to him by the BUYER/BIDDER and, should the occasion arise, submit proposals for correcting problematic situations.

7.9 The word 'IEM' would include both singular and plural.

8. Facilitation of investigation

commission, the BUYER or its agencies shall be entitled to examine all the documents including the Books of Accounts of the BIDDER and the BIDDER shall provide necessary information and documents in English and shall extend all possible help for the purpose of such examination.

9. Law and Place of jurisdiction

This Pact is subject to Indian Law. The place of performance and jurisdiction is the seat of the BUYER (i.e. New Delhi).

10. Other Legal Actions

10.1 The actions stipulated in this Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

10.2 The arbitration clause provided in the tender document/contract shall not be applicable for any issue/dispute arising under Integrity Pact.

11. Validity

11.1 The validity of this Integrity Pact shall be from the date of its signing and extend up to 5 years or the complete execution of all the contracts to the satisfaction of both the BUYER and BIDDER/Seller, including warranty period, whichever is later. In case BIDDER is unsuccessful, this Integrity Pact shall expire after six months from the date of the signing of the contract.

11.2 Should one or several provisions of this Pact turn out to be invalid; the remainder of this Pact shall remain valid. In this case, the parties will strive to come to an agreement to their original intentions.

11.3 If any claim is made / lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged / determined by CMD, TCIL.

11.4 Changes and supplements need to be made in writing.

11.5 If the Contractor is in a partnership or a consortium, this agreement must be signed by all partners or consortium members.

12. The parties hereby sign this Integrity Pact at _____ on _____ .

	BUYER	**BIDDER/SELLER**
Signature	_____	_____
Name of the officer	_____	_____
Designation	_____	_____
Name of the Company	_____	_____
Address	_____	_____
	_____	_____
Dated:	_____	_____

	Witness-1 (Buyer)	**Witness-1 (Bidder/Seller)**
Signature	_____	_____
Name of the officer	_____	_____
Designation	_____	_____
Name of the Company1	_____	_____
Address	_____	_____
	_____	_____
Dated:	_____	_____

	Witness-2 (Buyer)	**Witness-2 (Bidder/Seller)**
Signature	_____	_____
Name of the officer	_____	_____
Designation	_____	_____
Name of the Company	_____	_____
Address	_____	_____
	_____	_____
Dated:	_____	_____

(REFERENCE TO INDEPENDENT EXTERNAL MONITOR)

Date :

To,

_____
_____
_____

Sub: Tender No. / Contract No. _____

1. **No reference can be made to Independent External Monitor if the time to submit the tender / bid is less than 7 days. It may also be noted that no time extension will be allowed for submission of tender.**
2. **Reference of only those bidders who have purchased the tender document and signed the Integrity Pact will be entertained.**
3. **Application be made in triplicate - one shall be sent to TCIL and two copies of the same shall be sent to IEM.**

A) PRE-TENDER STAGE

I) Please provide the following information: -

a) Whether tender document has been purchased. Yes /

No (If Yes, indicate the Receipt No.)

b) If downloaded from website, whether fee for the same has been deposited.

Yes / No

c) Whether the query has been given to TCIL before submission to IEM. Yes / No (If Yes, please state the date of submission of query).

d) If reply has been received, please attach a copy of the reply.

ii) Please state the query in clear terms giving reference to the clause in the tender.

ISSUES RELATING TO EVALUATION OF TENDERS :

I) Whether any reference has been made to TCIL. Yes /No
(If yes, reply received from TCIL be attached.)

II) Issue on which reference is being made.

III) Documentary proof with reference to query be attached.

C) IN CASE CONTRACT HAS BEEN SIGNED/EXECUTATION STAGE

I) Date of signing of the contract.

II) Please state whether the Performance Guarantee has been submitted in terms of the contract. Yes / No

III) Agreement Clause No. against which the complaint is being made.

IV) Integrity Pact clause under which reference is being made.

D) ISSUES REFERENCE : (Please State the query)

I) Please state whether any reference was made to TCIL. Yes / No.
(If Yes, reply of TCIL be attached)

II) In case no reference is made, please note that first reference is required to be made to TCIL unless the issue relates to any corrupt practice.

Signature _____

Name of the Company _____

Address _____

Tel. No. _____

Mob. No. _____

Fax No. _____

E-mail _____

(Please attach separate sheets for detailing the issues, if need be)

- END OF IP DOCUMENT -

(Kamendra Kumar)
Group General Manager (MM)
Telecommunications Consultants India Ltd.
TCIL Bhawan, GK-I, ND -110048
Fax :+91 (11) 26242266/26242411
Tel: +91 (11) 26202405
Email: mmdiv@tcil-india.com

Annexure A

Address of Site and List of Coordinators (RIE):

S.No.	Address of RIE Principal	Name of Coordinator & Mobile No.	Phone/Fax No.
1.	Prof. V.K. Kakaria Principal, Regional Institute of Education Capt. D.P. Choudhary Marg Ajmer – 305 004 admin@rieajmer.ac.in	Shri. Praveen Chourassia 09414003552 Praveenc1@gmail.com	Ph. No. 0145-2643720, 2643864, 0145-2643671 Fax: 0145-2643862
2.	Prof. H.K. Senapati (09425300354(M) Principal Regional Institute of Education, Shyamala Hills Bhopal – 462013 principal.riebpl@gmail.com	Dr. N.C. Ojha 09826849297 ncojhanerie@yahoo.co.in	EPABX- 2522009 Fax No.2661668
3.	Prof. K.B. Rath (09937392814 (M) Principal, Regional Institute of Education Sachivalaya Marg Bhubaneswar – 751022 riebbs@yahoo.in,riebbs@nic.in	Dr. S.P. Mishra Associate Professor 09861070755 Spmishra.ncert@gmail.com	Ph. No. 0674-2541409 Fax No. 0674 - 2543782
4.	Prof. D.G. Rao (09425300354(M) Principal Regional Institute of Education Mysore – 570 006 riemysore@rediffmail.com	Dr. M.V. Paily Associate Professor mvpaily@yahoo.com 09482549206	Ph. No. 0821 - 2514095 Fax No. - 0821 – 2515665
5.	Prof.A. Sukumar Principal, North East Regional Institute of Education (NERIE) Umiam, Barapani, Shillong - 793103 Meghalaya nerie.ncert@gmail.com	Dr. Abhay Kumar Assistant Professor 09436962080 akumarabhay@gmail.com	Ph. No. 0364-2570052, 2570009 Fax No. +91-364-2522744

Address of Site and List of Coordinators (SIET):

S. No.	Address of SIET	Name of Coordinator with email-id & Mobile No.	Phone/Fax No.
1.	Director, Gujarat Institute Of Educational Technology GIET,132 feet Ring Road, Helmet Cross Roads, Navrangpura Ahmadabad-380009	giet-ahd@gujarat.gov.in dir-giet-edu@gujarat.gov.in	079-27913388 079-27912923

2.	Director, State Institute of Education Technology, (SIET) Pune Balchitrawani,Agarkar Marg,Senapati Bapat Road Pune-411004		
3.	Director, State Institute of Education Technology, (SIET) Hyderabad Educational Television Studios Ramanthapur, Hyderabad-500013	sietaphyd@yahoo.com	040-27038356

Address of Site and List of Coordinators (CIET):

S. No.	Address of CIET	Name of Coordinator & Mobile No.	Phone/Fax No.
1.	Director, National Council Of Educational Research & Training(NCERT) Chacha Nehru Bhawan Sri Aurbindo Marg New Delhi-110016		

No-Conviction Certificate

[On the letterhead of the Organization]

This is to certify that _____ (Name of the organization), having registered office at _____ (Address of the registered office) has never been blacklisted or restricted to apply for any such activities by any Central / State Government Department or Court of law anywhere in the country.

Signature:

Name of the Authorized

Signatory: Designation:

Contact details (including E-mail):

Date:

Annexure C

Tender No. TCIL/15/1597/I/14-MM/16E **July 15, 2014**

AUTHORISATION FORM

To: [Name of Purchaser]

WHEREAS [name of the Manufacturer] who are established and reputable manufacturers of [name and or description of the Goods] having factories at [address of factory]

do hereby authorize [name and address of Agents] to submit a bid, and subsequently negotiate and sign the contract with you against Tender No. [Reference of the Invitation to bid] for the above goods manufactured by us.

We hereby extend our full guarantee and warranty and 5 years of AMC support for the goods offered for supply by the above firm against this Invitation for bids.

_____

[Signature for and on behalf of Manufacturer]